

#### NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

(NASA-CR-147621) SUBSONIC STABILITY AND CONTROL CHARACTERISTICS OF A 0.015-SCALE (REMOTELY CONTROLLED ELEVON) MODEL 44-0 OF THE SPACE SHUTTLE ORBITER TESTED IN THE NASA/ARC 12-FOOT PRESSURE TUNNEL (LA66)

N76-32233 HC もち,00

Unclas G3/18 05341

SPACE SHUTTLE

**AEROTHERMODYNAMIC DATA REPORT** 



JOHNSON SPACE CENTER

HOUSTON, TEXAS

DATA MANagement services



#### DMS-DR-2281 NASA CR-147,621

SUBSONIC STABILITY AND CONTROL CHARACTERISTICS

OF A 0.015-SCALE (REMOTELY CONTROLLED ELEVON)

MODEL 44-0 OF THE SPACE SHUTTLE ORBITER

TESTED IN THE NASA/ARC 12-FOOT PRESSURE TUNNEL

(LA66)

bу

J. M. Underwood, Johnson Space Center H. Parrell, Rockwell International Space Division

Prepared under NASA Contract Number NAS9-13247

bу

Data Management Services Chrysler Corporation Space Division New Orleans, La. 70189

for

Engineering Analysis Division

Johnson Space Center
National Aeronautics and Space Administration
Houston, Texas

#### WIND TUNNEL TEST SPECIFICS:

Test Number: ARC 12PT 135-1 NASA Series Number: LA66

Model Number: 44-0

Test Dates: 20 through 24 October 1975

Occupancy Hours: 80

#### FACILITY COORDINATOR:

J. J. Brownson Ames Research Center Experimental Investigation Branch Mail Stop 227-5 Room 202B Moffett Field, California 94035

Phone: (415) 965-6262

#### PROJECT ENGINEERS:

B. Spencer

Langley Research Center

Mail Code Ex 3

Mail Stop 411

J. M. Underwood

Mail Code Ex 3

Johnson Space Co

Mail Stop 411 Johnson Space Center Hampton, Virginia 23665 Houston, Texas 77058

Phone: (804) 827-3911 Phone: (713) 483-2040

G. M. Ware H. Parrell

Langley Research Center Rockwell International
Mail Stop 411 Space Division

Mail Stop 411 Space Division
Hampton, Virginia 23665 12214 Lakewood Blvd.
Mail Code AC 07

Phone: (804) 827-3911 Downey, California 90241

Phone: (213) 922-1543

#### DATA MANAGEMENT SERVICES:

Prepared by: Liaison--J. W. Ball

Operations -- D. B. Watson

Reviewed by: G. G. McDonald

oproved: (2), J. Glin Concurrence:

ta Operations Data Management Services

Chrysler Corporation Space Division assumes no responsibility for the data presented other than display characteristics.

SUBSONIC STABILITY AND CONTROL CHARACTERISTICS

OF A 0.015-SCALE (REMOTELY CONTROLLED ELEVON)

MODEL 44-0 OF THE SPACE SHUTTLE ORBITER

TESTED IN THE NASA/ARC 12-FOOT PRESSURE TUNNEL

(LA66)

bу

J. M. Underwood, Johnson Space Center H. Parrell, Rockwell International Space Division

#### ABSTRACT

The investigation was conducted in the NASA/Ames Research Center 12foot Pressure Tunnel from Oct. 20 to 24, 1975. The model was a Langleybuilt 0.015-scale SSV Orbiter model with remote independently operated

left and right elevon surfaces. The objective of the test was to generate
a detailed aerodynamic data base for the current Shuttle Orbiter Configuration. Special attention was directed to definition of non-linear aerodynamic characteristics by taking data at small increments in angle of
attack, angle of sideslip, and elevon position.

Six-component aerodynamic force and moment and elevon position data were recorded over an angle of attack range from  $-4^{\circ}$  to  $24^{\circ}$  at angles of sideslip of  $0^{\circ}$  and  $\pm 4^{\circ}$ . Additional tests were made over an angle of sideslip range from  $-6^{\circ}$  to  $6^{\circ}$  at selected angles of attack.

The test Mach numbers were 0.22 and 0.29 and the Reynolds number was varied from 2.0 to  $8.5 \times 10^6$  per foot.

(This page left blank intentionally.)

### TABLE OF CONTENTS

	Page
ABSTRACT	iii
INDEX OF MODEL FIGURES	2
INDEX OF DATA FIGURES	3
NOMENCLATURE	5
INTRODUCTION	, 9
CONFIGURATIONS INVESTIGATED	11
TEST CONDITIONS	13
TEST FACILITY DESCRIPTION	14
DATA REDUCTION	15
TABLES	
I. TEST CONDITIONS	16
II. DATA SET/RUN NUMBER COLLATION SUM	17
III. MODEL DIMENSIONAL DATA	18
FIGURES	
MODEL .	27
DATA	35
APPENDIX	

TABULATED SOURCE DATA

#### INDEX OF MODEL FIGURES

Figure		Title .	Page
1.	Axis system	ms.	27
2.	Model sket	ches.	
	a. SS	V Orbiter Configuration	28
	b. S1	otted Elevon-E43 (6 inch gap)	29
		sition of Transition Grit Used In Investigation	30
3.	Model photo	ographs.	
	a. Orl	biter Configuration, Front, 3/4 View	31
	b. Orl	biter Configuration, Rear, 3/4 View	32
	c. Mod	del Installation Photograph, Rear, 3/4 View	33
	d. Moo	del Installation Photograph, Front, 3/4 View	34

INDEX OF DATA FIGURES

FIGURE NUMBER	INDEX OF DATA FIGURES	VARYING CONDITIONS	PLOTTED COEFFICIENT SCHEDULE	PAGES
4	EFFECTS OF REYNOLDS NUMBER, ELEVON = 0, BETA = 0	A	A	1-6
5	EFFECTS OF REYNOLDS NUMBER AT SIDESLIP .	В	<b>A</b>	7-12
6 '	EFFECTS OF ELEVON DEFLECTION, BETA = 0, RN/L = 8.5	5 C	Α	13-18
7(A)	EFFECTS OF REYNOLDS NUMBER ON LATERAL CHARACTERISTICS, ALPHA = 6	A	В	19-20
7(B)	EFFECTS OF REYNOLDS NUMBER ON LATERAL CHARACTERISTICS, ALPHA = 12	A	В	21-22
, 7(c)	EFFECTS OF REYNOLDS NUMBER ON LATERAL CHARACTERISTICS, ALPHA = 18	A	В	23-24
. 8	LATERAL STABILITY DERIVITIVES FROM PITCH RUNS AT BETA = 4 AND -4	A	С	25–26
9	LATERAL STABILITY DERIVITIVES FROM YAW RUNS (AT ZERO SIDESLIP)	A	c '	27–28
10	EFFECTS OF MACH NUMBER ON LATERAL CHARACTERISTICS ALPHA = 18	, D	В	29-30
. 11	COMPARISON OF SIDESLIP DATA FROM LARC LTPT(LA61B) AND ARC 12FTTPT(LA66), ALPHA = 6 DEG	E	В .	31-32
12	CONPARISON OF SIDESLIP DATA FROM LARC LTPT(LA61B) AND ARC 12FTTPT(LA66), ALPHA = 12/13 DEG	F	В	33-34
13	COMPARISON OF SIDESLIP DATA FROM LARC LTPT(LA61B) AND ARC 12FTTPT(LA66), ALPHA = 18/19 DEG	F	В	35-36

Ų

INDEX OF DATA FIGURES (Concluded)

FIGURE NUMBER		VARYING CONDITIONS	PLOTTED COEFFICIENT SCHEDULE	PAGES
14	COMPARISON OF INTERPOLATED SIDESLIP DATA FROM LARC LTPT(LA61B) AND ARC 12FTTPT(LA66), ALPHA = 6 DEG	E	В	37–38
15 <sub>:</sub>	COMPARISON OF INTERPOLATED SIDESLIP DATA FROM LARC LTPT(LA61B) AND ARC 12FTTPT(LA66), ALPHA = 13 DEG	É	<sub>.</sub> В	39-40
16	COMPARISON OF INTERPOLATED SIDESLIP DATA FROM LARC LTPT(LA61B) AND ARC 12FTTPT(LA66), ALPHA = 18 DEG	E	В .	41-42

#### VARYING CONDITIONS:

4

- A) RN/FT
- B) RN/FT, BETA
- C) ELEVON
- D) MACH, RN/FT
- TUNNEL, RN/FT "E)
- F) TUNNEL, ALPHA, RN/FT

#### PLOTTED COEFFICIENT SCHEDULE:

A) 
$$C_L$$
,  $C_D$ ,  $C_A$ ,  $L/D$ ,  $C_m$  vs.  $\alpha$ 

$$c_{m}$$
 vs.  $c_{N}$ 

$$C_Y$$
,  $C_n$ ,  $C_\ell$  vs.  $\alpha$ 

B) 
$$C_n$$
,  $C_0$ ,  $C_v$  vs.  $\beta$ 

B) 
$$C_n$$
,  $C_\ell$ ,  $C_Y$  vs.  $\beta$   
C)  $C_{n_{\beta}}$ ,  $C_{\ell_{\beta}}$ ,  $C_{Y_{\beta}}$  vs.  $\alpha$ 

#### NOMENCLATURE General

SYMBOL	WNEMONIC	DEFINITION
8	•	speed of sound; m/sec, ft/sec
$c_p$	CP .	pressure coefficient; $(p_l - p_{\infty})/q$
M	MACH	Mach number; V/a
p	-	pressure; N/m <sup>2</sup> , psf
đ	Q(NSM) Q(PSF)	dynamic pressure; 1/2 pV2, N/m2, psf
RN/L	RN/L	unit Reynolds number; per m, per ft
V	RN/FT	velocity; m/sec, ft/sec
α	ALPHA	angle of attack, degrees
β	BETA	angle of sideslip, degrees
ψ	PSI	angle of yaw, degrees
$\phi$	PHI	angle of roll, degrees
ρ		mass density; kg/m <sup>3</sup> , slugs/ft <sup>3</sup>
	. Refe	erence & C.G. Definitions
Ab .		base area; m <sup>2</sup> , ft <sup>2</sup>
ъ	BREF	wing span or reference span; m, ft
c.g.		center of gravity
$m{l}_{ ext{REF}}$	LREF	reference length or wing mean aerodynamic chord; m, ft
S	SREF	wing area or reference area; $m^2$ , $ft^2$
	MRP .	moment reference point
	XMRP	moment reference point on X axis
	YMRP	moment reference point on Y axis
	ZMRP ·	moment reference point on Z axis
SUBSCRIPTS  b  1  s  t	<u>.</u>	base local static conditions total conditions free stream

#### NOMENCLATURE (Continued)

#### Body-Axis System

SYMBOL	MNÉMONIC	DEFINITION
$\mathbf{c}^{\mathbf{M}}$	CN	normal-force coefficient; $\frac{\text{normal force}}{\text{qS}}$
$\mathbf{c}_{\mathbf{A}}$	CA	axial-force coefficient; axial force qS
$\mathtt{c}_{\mathtt{Y}}$	CY	side-force coefficient; $\frac{\text{side force}}{qS}$
-C <sub>Ab</sub>	CAB	base-force coefficient; base force
		$-A_b(p_b - p_{\omega})/q3$
$c_{A_{\bf \hat{T}}}$	CAF	forebody axial force coefficient, CA - CAb
$C_{\mathbf{m}}$	CIM	pitching-moment coefficient; pitching moment qS/REF
$c_n$	CYN	yawing-moment coefficient; <u>yawing moment</u> qSb
<b>c</b> €	CBL	rolling-moment coefficient; rolling moment
		Stability-Axis System
C <sub>L</sub>	CL	lift coefficient; lift qS
$c_{D}$	CD	drag coefficient; drag qS
$c_{D_b}$	CDB	base-drag coefficient; base drag
${\rm c}_{{\rm D}_{\rm f}}$	CDF	forebody drag coefficient; $^{\text{C}}_{\text{D}}$ - $^{\text{C}}_{\text{D}_{\text{D}}}$
C <sub>Y</sub>	CY	side-force coefficient; side force qS
C <sub>m</sub>	CIM	pitching-moment coefficient; pitching moment
c <sub>n</sub>	CLN	yawing-moment coefficient; yawing moment qSb
C <b>L</b>	CSL	rolling-moment coefficient; rolling moment
r/d	L/D .	lift-to-drag ratio; $c_{\rm L}/c_{\rm D}$
L/D <sub>f</sub>	L/DF	lift to forebody drag ratio; $c_{\rm L}/c_{\rm D_{\rm f}}$



## NOMENCLATURE (Continued) Additions to Nomenclature

SYMBOL	MNEMONIC	DEFINITION
$\delta_{ extbf{a}}$	AILRON	aileron, total aileron deflection angle, degrees, (left aileron- right aileron)/2
δ <sub>e</sub>	ELEVON	elevon, surface deflection angle, positive deflection trailing edge down, (left aileron + right aileron)/2
c <sub>A</sub>	CA	axial-force coefficient unadjusted for base or sting cavity pressures
$^{\mathrm{C_{A_{S}}}}$	CAC	sting cavity axial-force coefficient
<del>-</del>		elevon mean aerodynamic chord, in.
Se		elevon planform area, ft.
$\delta_{SB}$	SPDBRK	speed brake deflection angle, degrees
$\delta_{\mathtt{r}}$	RUDDER	rudder deflection angle, degrees
$\delta_{ m BF}$	BDFLAP	bodyflap deflection angle, degrees
$X_{cp}/\ell_B$	XCP/L	normal force center of pressure, percent reference length
$\delta_{e_{ extsf{L}}}$	ELVN-L	left elevon surface deflection angle, positive deflection trailing edge down, degrees
$\delta_{e_{R}}$	ELVN-R	right elevon surface deflection angle, positive deflection trailing edge down, degrees
A <sub>sc</sub>		sting cavity area, $m^2$ , $ft^2$
l <sub>B</sub>		body length, m, ft.
$c_{Y_{\beta}}$	DCY/DB	derivative of side force coefficient with respect to beta, 1/deg.
$c_{n_{\beta}}$	DCYNDB .	derivative of yawing moment coefficient with respect to beta, 1/deg.

#### NOMENCLATURE (Concluded)

SYMBOL	MNEMONIC	DEFINITION
$^{\mathrm{C}}_{\mathrm{P}_{\mathrm{b}}}$	CPBASE	base pressure coefficient
C <sub>P</sub> cav	CPCAV	pressure coefficient for sting cavity area
clb	DCBLDB	derivative of rolling moment coefficient with respect to beta, 1/deg.
Δβ	DBETA	incremental angle of sideslip, difference between two or more test runs, degrees
	GRITNO	parameter to denote testing with grit GRIT = 1 (grit on), GRIT = 0 (grit off)

#### INTRODUCTION

The NASA is continuing experimental and analytical development of an aerodynamically sound and effective Space Shuttle vehicle. Extensive wind tunnel support has been devoted to this vehicle, especially the Orbiter Configuration, which is at present fixed in basic design. Several areas of concern have recently been noted from analysis of experimental data obtained in the numerous tests in various facilities, which are: the existence of regions of nonlinear aerodynamic characteristics significant enough to cause concern to control designers and, in some cases, disagreement between data obtained in the various facilities across the country.

Therefore, the Langley Research Center, in cooperation with Johnson Space Center and Rockwell International, has undertaken an experimental program to determine in detail the aerodynamic characteristics of a model of the Space Shuttle Orbiter. Attention will be given to conditions which have in past investigations shown regions of nonlinearity, since detailed definitions in these regions are particularly important in the development of longitudinal and lateral control characteristics to be used in the vehicle control logic. In addition, in order to minimize the effects of configuration differences which may contribute to uncertainties, a single model will be tested in the following facilities:

#### Langley Research, Center

8 Ft. Transonic Pressure Tunnel (LA62)	(DMS-DR-2264)
Low Turbulence Pressure Tunnel (LA61B)	(DMS-DR-2300)
Unitary Plan Wind Tunnel No.1 (LA63A)	(DMS-DR-2270)
Unitary Plan Wind Tunnel No.2 (LA63B)	(DMS-DR-2279)

#### Ames Research Center

	12 Ft.	Transonic	Pressure Tunne	1 (LA66)	(DMS-DR-2281)
_					

#### Calspan

8 Ft. Variable Density Transonic Tunnel (LA70) (DMS-DR-2269) LTV, Inc.

4 x 4 Ft. Supersonic Wind Tunnel (LA67) (DMS-DR-2266)

#### INTRODUCTION (Continued)

The model was designed with remotely controlled elevons so that pitch and roll control effectiveness could be defined in small control increments over a wide range of control settings. A large data base of aerodynamic characteristics will be determined in continuous flow lower Reynolds number facilities. Non-linearities or other possible problem areas that appear in these low Reynolds number tests will be investigated in facilities which are capable of higher Reynolds numbers. At the conclusion of the overall program aerodynamic data will be avaiable in the Mach range from 0.22 to 4.6 on a single model and in a wide range of Reynolds numbers to give a high degree of confidence in the data, and extrapolation to full scale conditions.

Purpose of this report is to present additional subsonic aerodynamic characteristics obtained in the Ames 12-Foot pressure tunnel at Mach numbers of 0.22 and 0.29 over an angle of attack range from -4° to 24°. Tests were conducted over a sideslip range of -6° to 6° at selected angles of attack.

These tests were also used to validate the lateral-directional data taken in the Langley Low Turbulence Tunnel. The Langley data (DMS-DR-2300) was taken with a new test apparatus that sideslipped the model by changing the model roll and pitch angles. Since the Low Turbulence Pressure tunnel test section is 3 feet wide by 7.5 feet high, the tunnel boundaries were different with respect to the model for each angle of sideslip and thus it was desirable to check to see if the standard wind tunnel corrections were applicable.

#### CONFIGURATIONS INVESTIGATED

The test model was a 0.015-scale model of the Space Shuttle Orbiter (Figures 2 and 3). The model was constructed at the Langley Research Center using the nose section forward of full-scale fuselage station 672.8, the vertical tail and OMS pods from an existing Rockwell model 44-0. The remainder of the model, the wings, elevons, and body were constructed from Rockwell-furnished line details. The elevon hinge line gap was sealed for this test. The left and right elevon surfaces were driven independently by internally mounted electric motors. The elevon position was determined by high resolution potentiometers mounted on the pivot axis of the elevons, thus giving the true position of the elevon under load at all times. The accuracy of the elevon position is the read-out accuracy of the potentiometer, which was determined to be within 0.2 degree.

The model configuration is summarized as follows: Orbiter-140A/B/C =  $^{\rm B}_{26}$   $^{\rm C}_{9}$   $^{\rm E}_{43}$   $^{\rm F}_{8}$   $^{\rm M}_{16}$   $^{\rm N}_{28}$   $^{\rm R}_{5}$   $^{\rm V}_{8}$   $^{\rm W}_{16}$ 

Component	Definition
<sup>B</sup> 26	Fuselage per Rockwell Lines VL70-000140A and VL70-000140B (Model SS-A00147)
. c <sub>9</sub>	Canopy per Rockwell Lines VL70-000140A and VL70-000143B (Model drawing SS-A00147)
E <sub>43</sub>	Slotted version (6-inch) of E26 elevons per Rockwell VL70-000145 (Model drawing SS-A00147)
F8 .	Body flap per Rockwell Lines VL70-000145 (Model drawing SS-A00147)
<sup>M</sup> 16	OMS/RCS pods Rockwell Lines VL70-0084010 (Model drawing SS-A00147
<sub>N</sub> 28	OMS engine nozzle per Rockwell Lines VL70-000145 (Model drawing SS-A00147)
R <sub>5</sub>	Rudder per Rockwell Lines VL70-000146A (Model drawing SS-A00148)

### CONFIGURATIONS INVESTIGATED (Concluded)

Component	<u>Definition</u>
v <sub>8</sub>	Vertical tail per Rockwell Lines VL70-000146A (Model drawing SS-A00148)
<b>W</b>	Wing per Rockwell V70-30-906-01 (Basic Control drawing)
A complete	description of model dimensional data is given in Table III.

#### TEST PROCEDURES

The tunnel conditions existing during the test are summarized in Table I, and the configurations tested are shown in Table II. The model was sting supported, and the aerodynamic forces and moments were measured by an internally mounted six-component strain gage balance. Model angle of attack was varied from about  $-4^{\circ}$  to  $24^{\circ}$  for angles of sideslip of 0° and  $\pm 4^{\circ}$ . Sideslip angles were varied from  $-6^{\circ}$  to  $6^{\circ}$  at angles of attack of  $6^{\circ}$ ,  $12^{\circ}$ , and  $18^{\circ}$ . Angles of attack and sideslip have been corrected for the effects of sting deflection under load.

#### TEST FACILITY DESCRIPTION

Ames 12-foot Pressure Wind Tunnel is a closed circuit, continuous flow, single return, variable-density, low-turbulence tunnel that operates at subsonic speeds up to slightly less than Mach 1.0.

Airflow is produced by a two-stage, axial-flow, variable-speed fan powered by electric motors which deliver 12,000 hp. Airspeed in the test section is controlled by variation of the rotational speed of the fan.

The test section is 11.3 feet in diameter and is 18 feet long. The combination of eight fine-mesh screens in the settling chamber and the contraction ratio of 25 to 1 provides an exceptionally low turbulence airstream. A special mounting drive system is available for high angle of attack. External and internal strain-gage balances are available.

Data are recorded on a Beckman 210 medium speed recorder and processed through a centrally located Honeywell H-800 computer system.

#### DATA REDUCTION

The LaRC UT 27-55 six component strain gage balance was used to measure model forces and moments. All final data were presented along a set of body and stability axes (Figure 1) through the nominal center of gravity located at F. S. 1076.7 and FRL 375.0. Drag data presented represent gross drag in that no corrections to free-stream conditions in the base regions have been made. Model data were converted to standard NASA coefficients using the following constants:

			_
Reference Area	SREF	=	0.605 ft. <sup>2</sup>
Reference Length	LREF	=	7.122 in.
Reference Span	BREF	=	14.05 in.
Total base area excluding sting cavity	Δ.	_	0.0615 ft. <sup>2</sup>
201118 Cavioy	n'b	_	0.001) 10.
Sting cavity area	Asc	=	0.03409 ft. <sup>2</sup>

TABLE I

ST : LA 66			DATE: 10-24-75
	TEST CO	NDITIONS	
MACH NUMBER	REYNOLDS NUMBER (per foot)	DYNAMIC PRESSURE (pounds/sq. Feet)	STAGNATION TEMPERATU (degrees Fahrenheit)
0.29	2 x 10 <sup>6</sup>	138	110
	4 x 10 <sup>6</sup>	280	
	5 x 10 <sup>6</sup>	350	
	6 x 10 <sup>6</sup>	420	
	7 x 10 <sup>5</sup>	490	
<u> </u>	$8.5 \times 10^{\circ}$	560	
0.22	$2.7 \times 10^{0}$	138	
	5.3 x 10 <sup>0</sup>	277	
	6.4 x 10 <sup>6</sup>	336	<b>Y</b>
BALANCE UTILIZED:	Larc UT 27-55		······································
	CAPACITY:	ACCURACY:	COEFFICIENT TOLERANCE:
NF	_600 lb.	±3 1b.	
SF	300 lb.	±1.50 lb.	
AF	55 lb.	±0,275 1b.	
РМ	800 in -1h.	<u>±4.00 in -1</u> b.	
RM -	400 in1b.	<u>±2.00 in1</u> b.	
YM	600 in1b.	<u>±3.00 in1</u> b.	1
COMMENTS:			

TABLE II.

TEST: LAG	66 ARC 135-1-12		•••	DAT	A SE	T/RL	טא אנ	MBER	COLI	_ATIO	1 SUMA	IARY	<del> </del>	DATE	: 10-	25-7	5		
DATA SET	CONFIGURATION	so		PAR.			/ALUES	NO.			······································	RN/L	per	foot	x 10 <sup>-6</sup>	)	· · · · · · · · · · · · · · · · · · ·		
IDENTIFIER		<u> </u>	β	δSI	δe	$-\delta_a$	М	RUNS	2.0	2.7	4.0	5.0	6.0	7.0	8.5				
RNJ001	BASELINE	A	-4	25	0	0	0.29	3					14	13	12				
02		Α	0			T		6	8		7	6	5	14	1			<del></del>	
03		Α	14			П		3					11	10	9	-			_
04	,	6	В				1.	· 3					15	17	16	1		,	_
05	,	12	В					3					20	19	18			· · · · · · · · · · · · · · · · · · ·	_
06		18	<del></del>					3			1		25	23	21				_
07	·	. 18	В	25	0	0	0.22		-	26		24	<del>,</del>	22	<del> </del>		+		-
08	<del></del>	À	0	25	<del></del>		0.29								2	<del> </del>			_
09		À		25	1		0.29						· · · · · · · · · · · · · · · · · · ·		<del> </del>				_
1 3		A			-5	U	0.29	<u> </u>						ļ	3				$\dashv$
																<u> </u>	-		4
		_											··					<u>-</u>	
						·													
																•			
					` .	,													
ELEVON   C	N CA	CLM	Į	CL	•	CD		, 'L/1	)	CBL	, C	YN	CY		RN/L		ALPHA	1	
elevon / ci	N CA	CLM	, ;;	CL		CD	•	, L/1	)	CBL	ı C		CY		RN/L		BETA		:  -
CSL C	LN CPCAV	CPBAS	E ,	Q(P	SF)	EL	VN-L			XCP/L	***************************************	ILRON	BET	'A	RN/L		ALPHA		L: ! -
CSL C	LŇ CPCAV	CPBAS	E 1	Q(P	SF)	<u> </u>	VN-L		·	XCP/L		LLRON	ALF		RN/L		BETA		L
TYPE OF DATA	$(A) \alpha = -3$	to 2)	hv	٦٥	inara	C	OEFFIC					t .			-	R (1)	IDVAR		N N
α OR β SCHEDULE	$\frac{R}{B}$ $\beta = -6$	to 6	by by	٦٥	incre	amen.	tá												

## TABLE III. MODEL DIMENSIONAL DATA

MODEL COMPONENT : BODY B26		
GENERAL DESCRIPTION Configuration	n 140A/B Orbiter	Fuse lage
NOTE: B <sub>26</sub> is identical to B <sub>24</sub> except	underside of fu	șelage has been
refaired to accept W		
MODEL SCALE: 0.015 MODEL E	DRAWING: SS-A00	147, RELEASE 12
DRAWING NUMBER: VL70-000143B, -0002 -000145, -000140A, 0		
-		
DIMENSIONS .	FULL SCALE.	MODEL SCALE
* Length (OML: Fwd Sta. $X_0=235$ )-In * Length(IML: Fwd Sta. $X_0=238$ )-In * Max Width (@ $X=1528.3$ ) - In.	1293.3 1290.3 264.0	19.400 19.355 3.960
Max Depth (@ X <sub>0</sub> = 1464) - In.	250.0	3.750
Fineness Ratio		,
Area - Ft <sup>2</sup>		
Max. Cross-Sectional	340.88	0.077
Planform		
Wetted		
Base		
•	•	

# TABLE III-Continued MODEL DIMENSIONAL DAȚA

MODEL COMPONENT : CANOPY - C9		
GENERAL DESCRIPTION . Configure	ation 3A, Canopy used	with Fuselage
B <sub>26</sub> .	·	
MODEL SCALE: 0.015 MODEL	DRAWING: SS-A00147	, RELEASE 12
DRAWING NUMBERVL70-0	00143A/8	
		,
		,
DIMENSIONS	FULL SCALE	MODEL SCALE
Length $(X_0 = 434.643 \text{ to } 587)$	143.357	2.150
Max Width (@ X <sub>o</sub> = 513.127)	152.412	2.286
Max Depth (@ $X_0 = 485.0$ )	25.000	0.375
Fineness Ratio		
Area		
Max. Cross-Sectional		
Plánform		
Wetted	-	
Base		

# TABLE III—Continued MODEL DIMENSIONAL DATA

MODEL COMPONENT SLOTTED ELEVON (6-inch GAP) - E43						
GENERAL DESCRIPTION Configuration 140A/B Orbiter elevon.						
NOTE: E43 is a slotted version of E26. Data are for one side.						
MODEL SCALE: 0.015 MODEL DRAW	ING: SS-A00148					
DRAWING NUMBER VL70-000200, VL70-00	06089, VL006092					
, .	•					
	· •	•				
DIMENSION'S.	FULL SCALE	MODEL SCALE				
Area - Ft <sup>2</sup>	210.0	0.0473				
Span (equivalent) - In.	349.2	5.238				
inb'd equivalent chord - In.	118.004	1.770				
Outh'd equivalent chord/ total	55.192	0.828				
Ratio movable surface chord/ total surface chord	· ;	1				
At Inb'd equiv. chord	0.2096	0.2096				
At Outb'd equiv. chord	0.4004	0.4004				
Sweep Back Angles, degrees						
Leading Edge	0.00	0.00				
Trailing Edge	-10.056	-10.056				
Hingeline	0.00	0.00				
Area Moment (Normal to hinge line)	1587.25	0.00536				
Mean Aerodynamic Chord (c), in.	90.7	1.3605				

## TABLE III-Continued MODEL DIMENSIONAL DATA

MODEL COMPONENT : BODY FLAP -F8	*	
GENERAL DESCRIPTIONConfiguration	140A/B Orbiter	Body Flap.
Hingeline loc	ated at X <sub>o</sub> = i5	28.3, $Z_0 = 284.3$
MODEL SCALE: 0.015 MODEL DRAWING	: SS-A00147, R	ELEASE 12
	•	
DRAWING NUMBER	<b>VL</b> 70-000145	
DIMENSIONS .	FULL SCALE	MODEL SCALE
Length $(X_0 = 1520 \text{ To } X_0 = 1613)$	93.000	. 1.395
Max Width (In.)	262.00	3.930
Max Depth $(X_0 = 1520) - In$ .	23.000	0.345
Fineness Ratio	·	
Area - Ft <sup>2</sup>		
Max. Cross-Sectional		
Planform	150.525	0.0339
Wetted		
Base	41.84722	0.00941

## TABLE III-Continued MODEL DIMENSIONAL DATA

MODEL COMPONENT : OMS Pod (M16)		<del></del>
GENERAL DESCRIPTIONConfiguration	140D Orbiter OMS	Pod
	······································	
	· · · · · · · · · · · · · · · · · · ·	
MODEL SCALE: 0.015 MODEL DRAWING	NO: SS-A00147	
VL70-000140D DRAWING NUMBER . VL70-008410		
DIMENSIONS":	FULL SCALE	MODEL SCALE
Length (QMS Fwd Sta X <sub>O</sub> =1310.5)_Ir	258.5	3.878
Max Width (@ $X_0 = 1511$ ) - In.	136.8	2.052
Max Depth (@ $X_0 = 1511$ ) - In.	74.7	1,121
Fineness Ratio	2.484	2.484
Area - Ft. <sup>2</sup>		
Max. Cross—Sectional	58.864	0.0132
Planform		
Wetted		·
Bose		

### TABLE III - MODEL DIMENSIONAL DATA-Continued

MUDIL COMPONENT: OMS NOZZLES - N28	· .	·
GENERAL DESCRIPTION: Configuration 140A/8	Orbiter OMS No	ozzles
		•
•		
HODEL COME O ONE	\$\$=000147	
MODEL SCALE: 0.015 . MODEL DRAWING:	RELEASE 5 (C	Contour)
DRIVING NUMBER: VL70-000145, (location)		
DIMENSIONS:	FULL SCALE	MODEL SCALE
MACH NUMBER		,
Length- In.	•	
Gimbal Point to Exit Plane	-	
Throat to Exit Plane		
Diameter - In.		
Exit	<del></del>	·····
Throat		·····
Inlet		
Area - ft <sup>2</sup>		
Exit		• •
Throat	• .	
Gimbal Point (Station) - In.		***************************************
Left Nozzle		. •
Χ <sub>υ</sub>	1518.0	22.770
· Y <sub>0</sub>	-88.0	-1.320
Zo	490.2	7.380
Right Nozzle		
X	1518.0	22 770
Y	+88.0	22.770 +T.320
Z	492.0	7.380
		7.300
Null Position - Deg. Left Nozzle		
Pitch	150491	
· Yaw	12017	15°49'
Right Nozzle	14-1/.	120171
Pitch .	150491	15 <sup>0</sup> 491
Yaw	12017	120171
		12 1/

# TABLE III—Continued MODEL DIMENSIONAL DATA

GENERAL DESCRIPTION 2A, 3,	3A, and 140A/B Co	onfigurations
		3
MODEL SCALE: 0.015 MC	DEL DRAWING: SS	-A00148
DRAWING NUMBER VL70-000146A, VL70-		
DIMENSIONS		
	FULL SCALE	MODEL SCALE
*Area Ft <sup>2</sup>	100.15	0.0225
Span (equivalent) - In.	201.0	3.015
Inb'd equivalent chord - In.	91.585	1.3738
Outb'd equivalent chord - In.	50.833	0.7625
Ratio movable surface chord/ total surface chord		
At Inb'd equiv. chord	0.400	0.400
At Outb'd equiv. chord	0.400	0.400
Sweep Back Angles, degrees		
Leading Edge	34.83	_34.83
Trailing Edge	26.25	26.25
· Hingeline	34.83	34.83
Area Moment (Normal to hinge line)	610.92	0.002
Mean Aerodynamic Chord, - In.	73.2	1.098

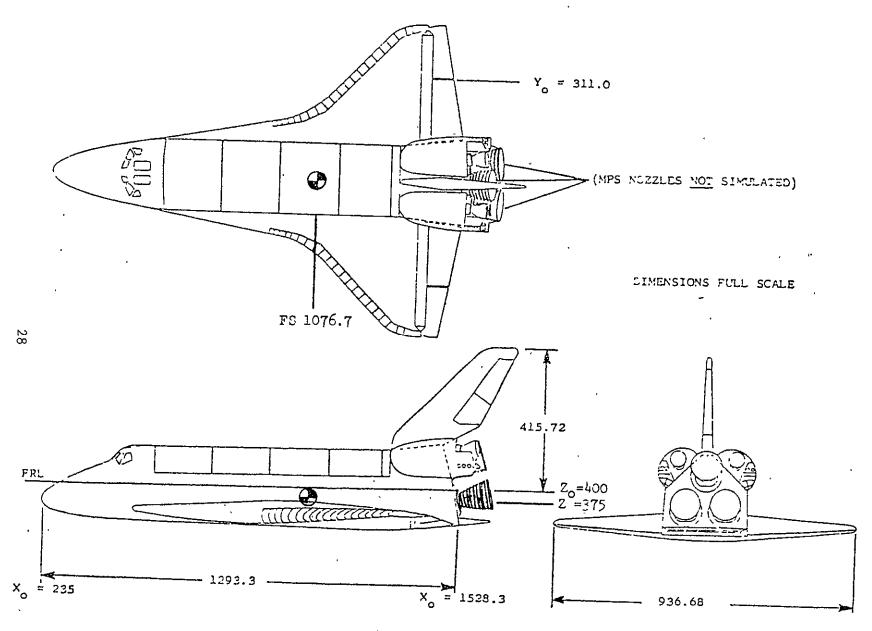
# TABLE III (Continued) MODEL DIMENSIONAL DATA - Continued

MODEL COMPONENT VERTICAL - V8		
GENERAL DESCRIPTION Configuration	140A/B Orbiter V	ertical Tail
`		
	AWING NUMBER: S	S-A00148, ELEASE 6
DRAWING NUMBER VL70-000146A		
DIMENSIONS: TOTAL DATA	FULL SCALE	MODEL SCALE
Area (Theo) - Ft <sup>2</sup> Planform Span (Theo) - In. Aspect Ratio Rate of Taper Taper Ratio Sweep-Back Angles, Degrees. Leading Edge *Trailing Edge 0.25 Element Line Chords: Root (Theo) WP Tip (Theo) WP MAC	413.253  315.720  1.675  0.507  0.404  45.000  26.2  41.130  268.500  108.470	0.093 4.736 1.675 0.507 0.404 45.000 26.2 41.130 4.028 1.627
Fus. Sta. of .25 MAC W.P. of .25 MAC B.L. of .25 MAC	199,808 1463.50 635,522 0.00	2.997 21.953 9.533 0.00
Airfoil Section Leading Wedge Angle - Deg. Trailing Wedge Angle - Deg. Leading Edge Radius	10.00 14.920 2.00	10.00 14.920 0.030
Void Area	13.17	0.030
Blanketed Área	0.00	0.00

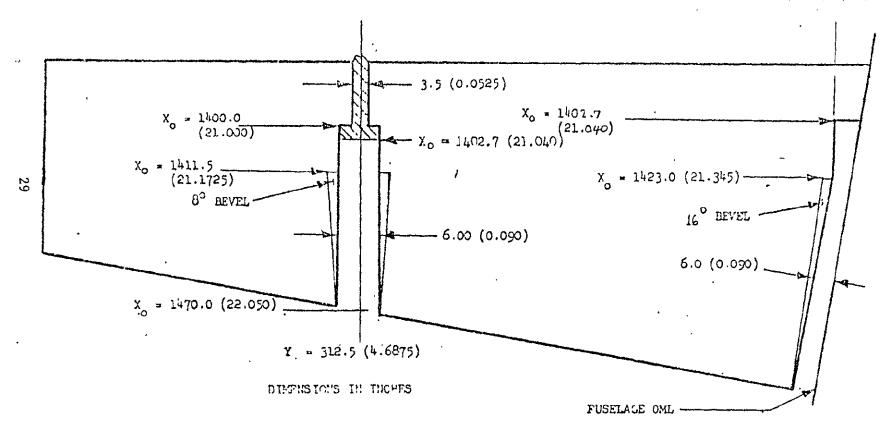
#### TABLE III (Concluded)

MODEL COMPONENT: WING-W		
GENERAL DESCRIPTION: Configuration 4	•	
NOTE: Identical to W <sub>114</sub>	except airfoil th	ickness.
Dihedral angle is along	trailing edge of v	ving.
MODEL SCALE: 0.015 MODEL DRAWING: SS-A	c0148·	····
DRAWING NUMBER: VL70-000140A -0002		
DIMENSIONS:	FULL-SCALE	MODEL, SCALE
TOTAL DATA	•	
Area (Theo) Ft <sup>2</sup> Planform Wetted Span (equivalent) (Theo) In. Aspect Ratio Rate of Taper Taper Ratio Dihedral Angle, degrees Incidence Angle, degrees Aerodynamic Twist, degrees Toe-In Angle Cant Angle Sweep Back Angles, degrees Leading Edge Trailing Edge 0.25 Element Line Chords: Root (Wing Sta. 0.0) (Theo) B.P.O. Tip, (equivalent) (Theo) B.P. MAC Fus. Sta. of .25 MAC W.P. of .25 MAC B.L. of .25 MAC	2690.00  936.68  2.265  1.177  0.200  3.500  0.500  +3.000  -10.056  35.209  0.689.24  137.85  474.81  1136.83  290.58  182.13	0.605  14.050 2.265 1.177 0.200 3.500 0.500 +3.000  -10.056 35.209  10.339 2.068 7.122 17.052 4.359 2.732
Airfoil Section  Root  Tip  EXPOSED DATA	102.13	2.732
Area Ft <sup>2</sup> Span, (equivalent) (Theo) In. BP103 Aspect Ratio Taper Ratio Chords Root BP108 Tip 1.00 b MAC Fus. Sta. of .25 MAC W.P. of .25 MAC B.L. of .25 MAC	1751.50 720.68 2.059 0.245 562.09 137.85 392.83 1185.98 294.30 251.77	0.394 10.810 2.059 0.245 8.431 2.068 5.892 17.790 4.415 3.777

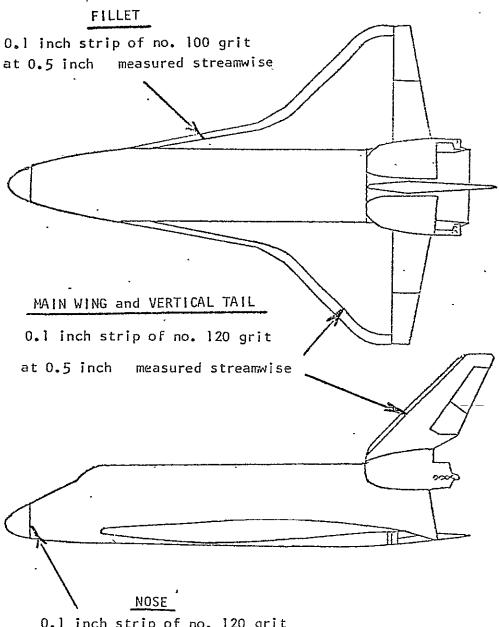
Figure 1. Axis systems.



a. SSV Orbiter ConfigurationFigure 2. - Model sketches.

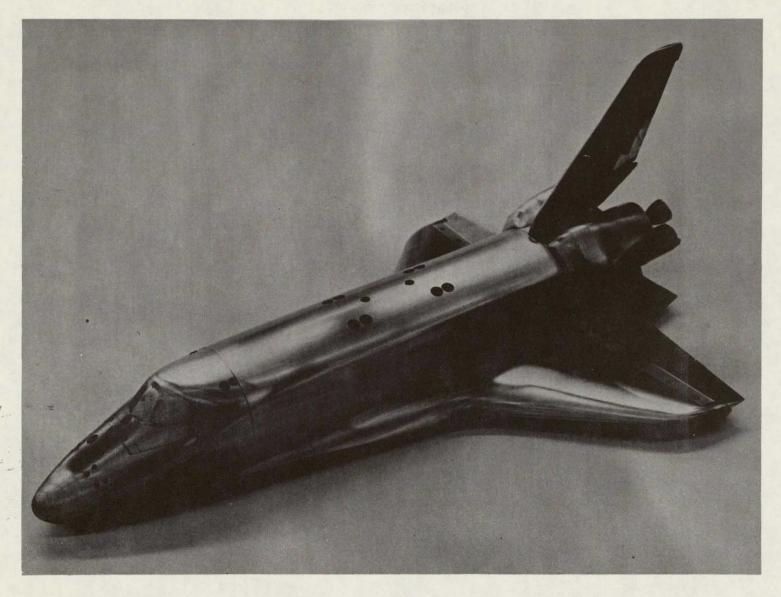


b. Slotted Elevon E43 (6-inch gap) Figure 2. - Continued.

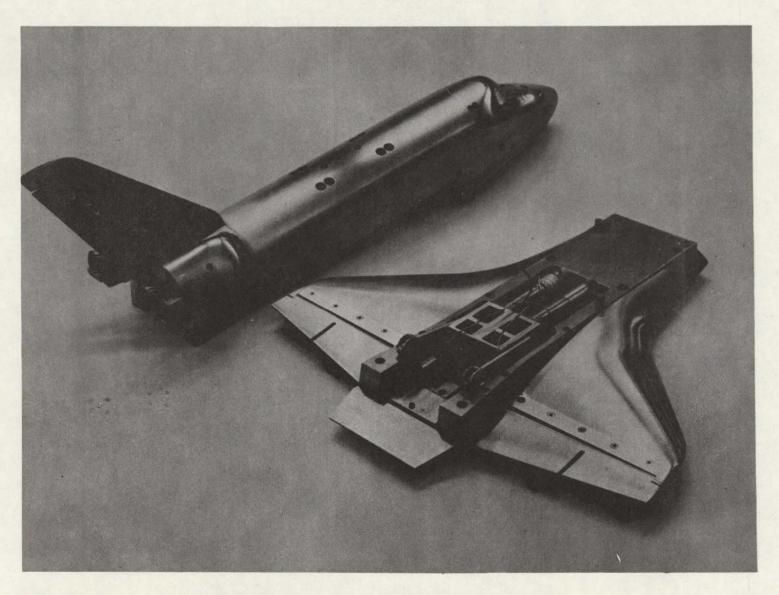


0.1 inch strip of no. 120 grit
at.1.2 inch measured streamwise

c. Position of Transition Grit Used In Investigation Figure 2. Concluded.



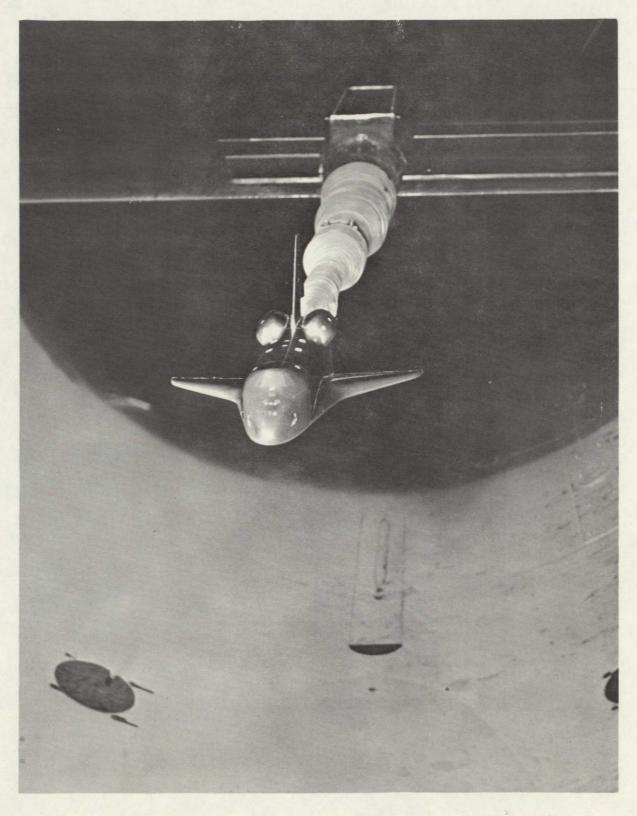
a. Orbiter Configuration, Front, 3/4 View Figure 3. Model Photographs



b. Orbiter Configuration, Rear, 3/4 ViewFigure 3. Concluded.



c. Model Installation Photograph, Rear, 3/4 View Figure 3. Continued.



d. Model Installation Photograph, Front, 3/4 View Figure 3. Concluded.

DATA FIGURES

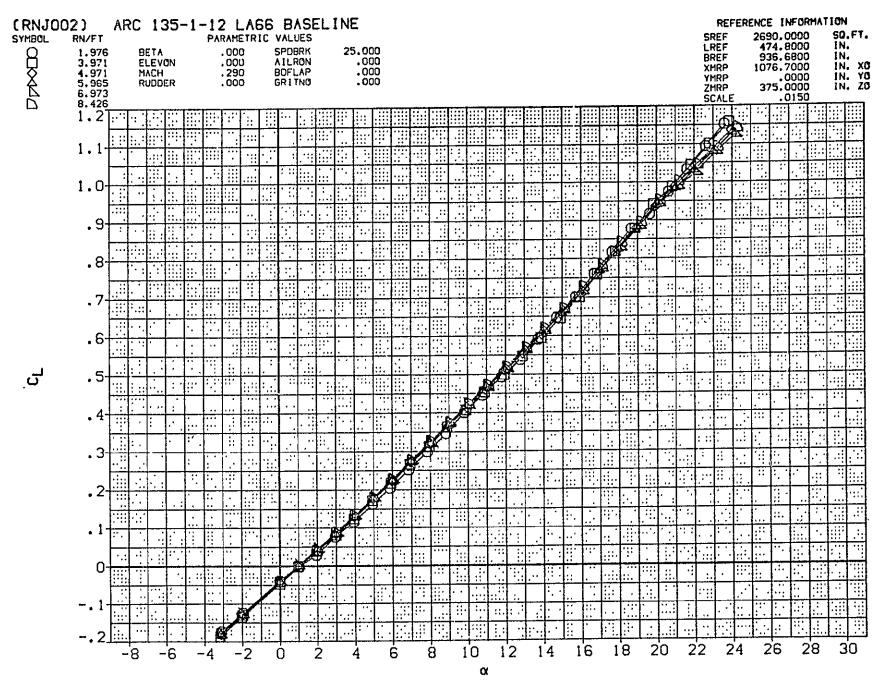


FIGURE 4. EFFECTS OF REYNOLDS NUMBER. ELEVON=0. BETA=0

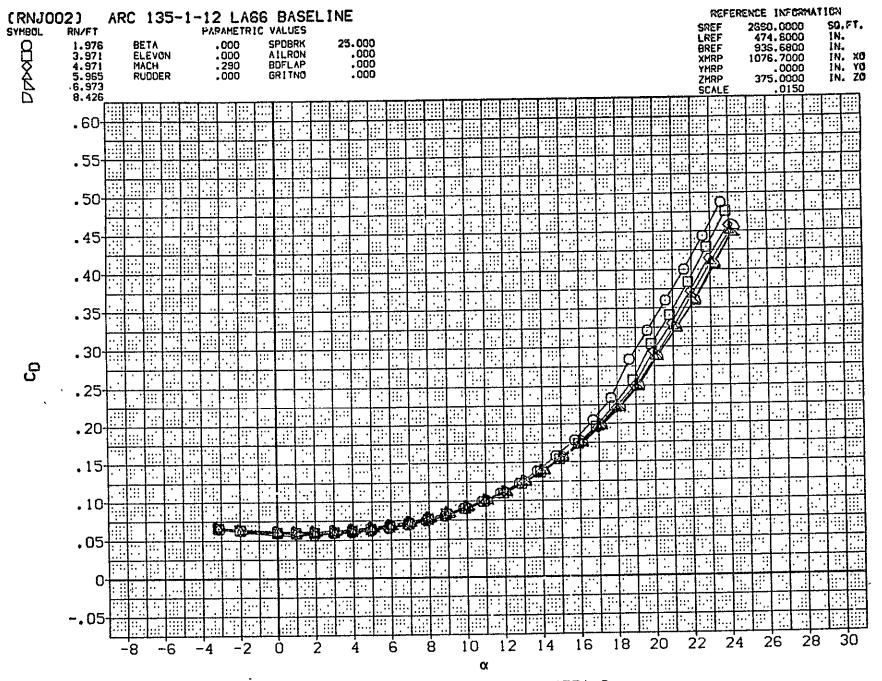


FIGURE 4. EFFECTS OF REYNOLDS NUMBER, ELEVON=0, BETA=0

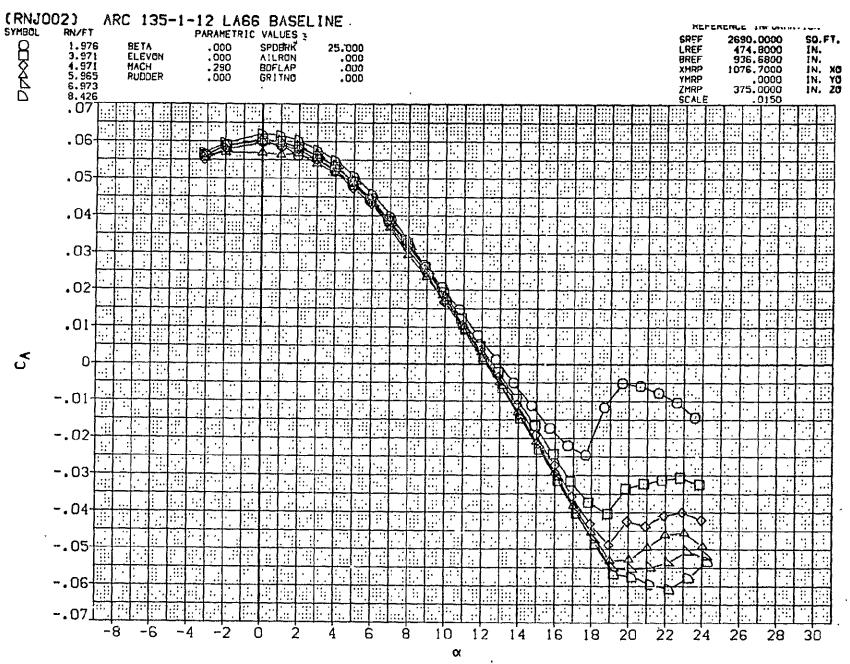


FIGURE 4. EFFECTS OF REYNOLDS NUMBER. ELEVON=0. BETA=0

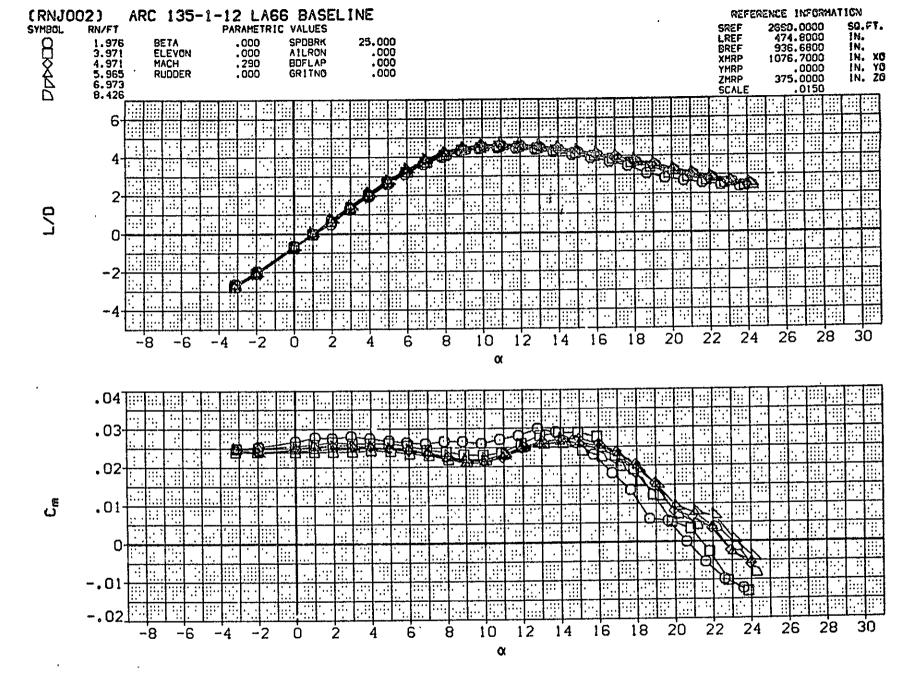


FIGURE 4. EFFECTS OF REYNOLDS NUMBER, ELEVON=0, BETA=0

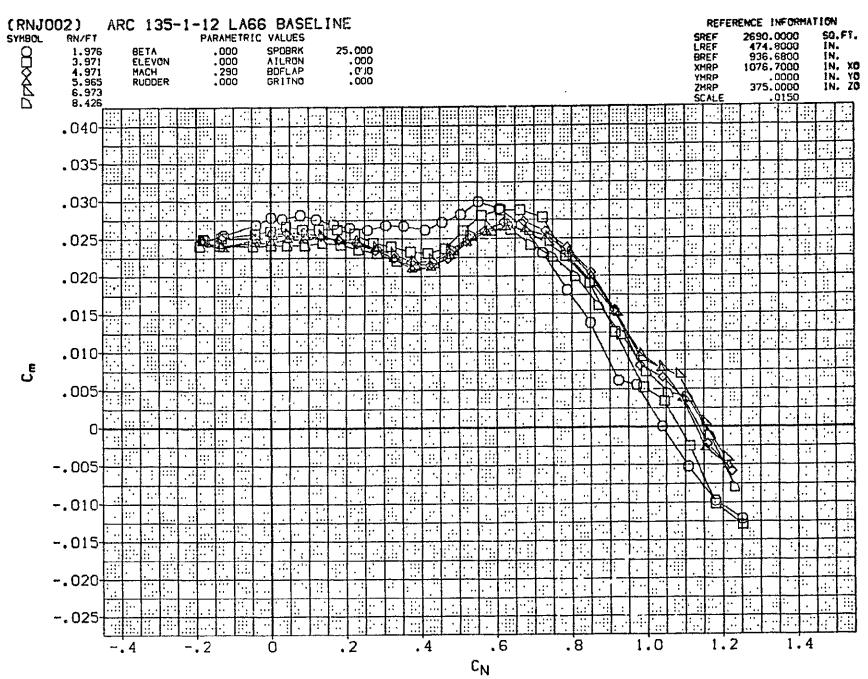


FIGURE 4. EFFECTS OF REYNOLDS NUMBER. ELEVON=0. BETA=0

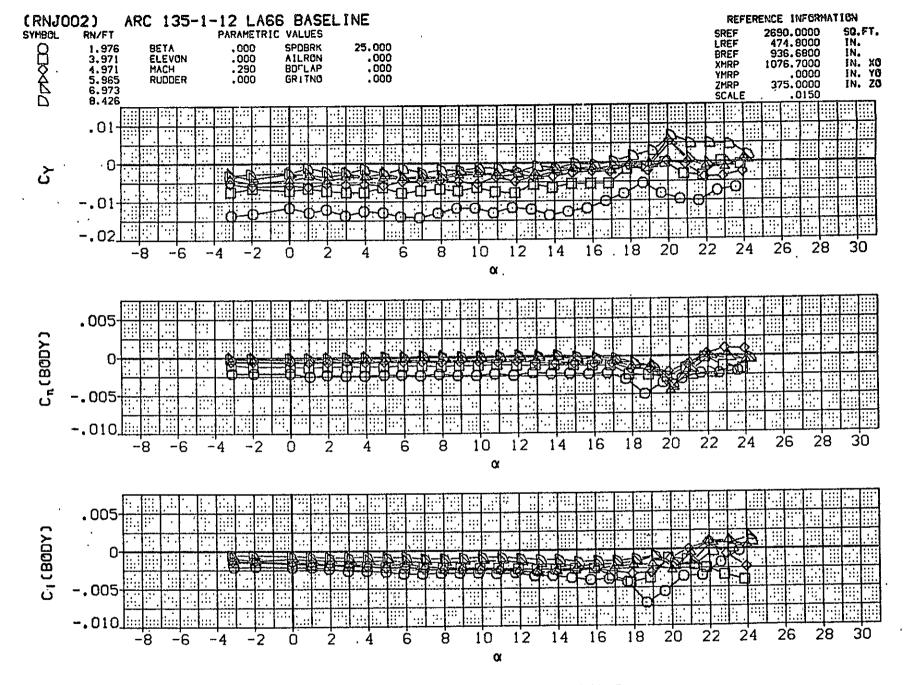


FIGURE 4. EFFECTS OF REYNOLDS NUMBER, ELEVON=0, BETA=0

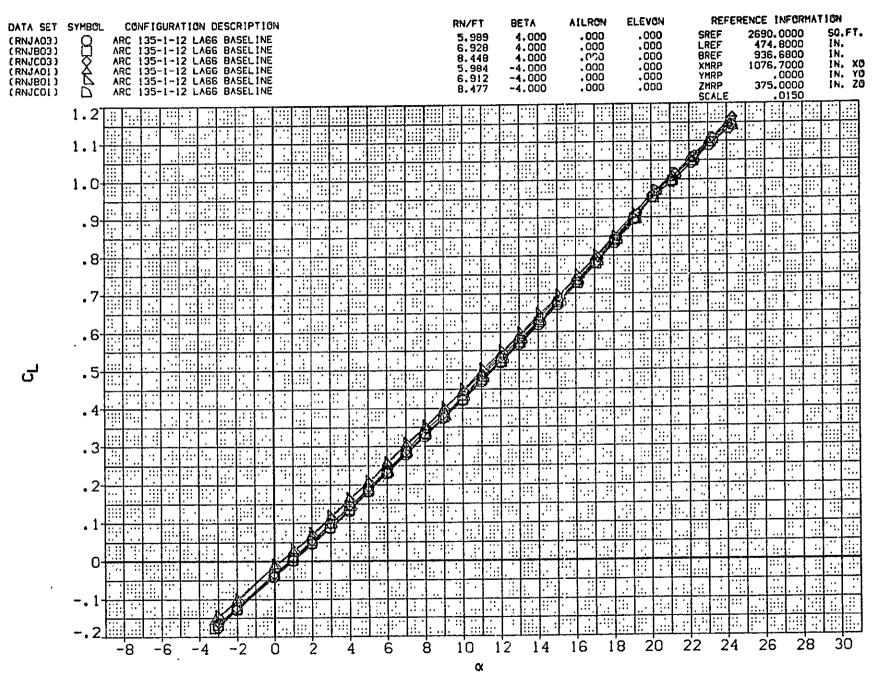


FIGURE 5. EFFECTS OF REYNOLDS NUMBER AT SIDESLIP

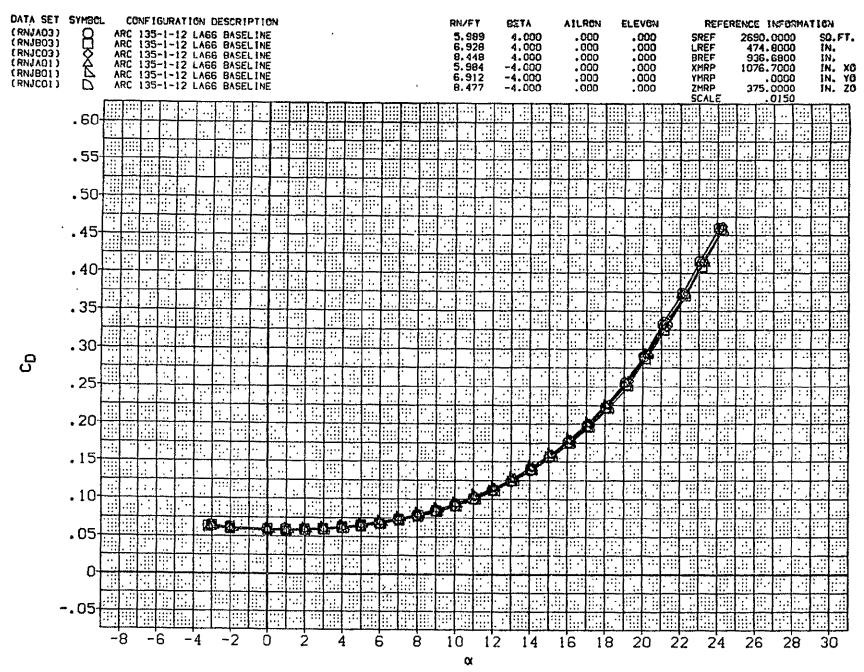


FIGURE 5. EFFECTS OF REYNOLDS NUMBER AT SIDESLIP

(A)MACH = .29

PAGE

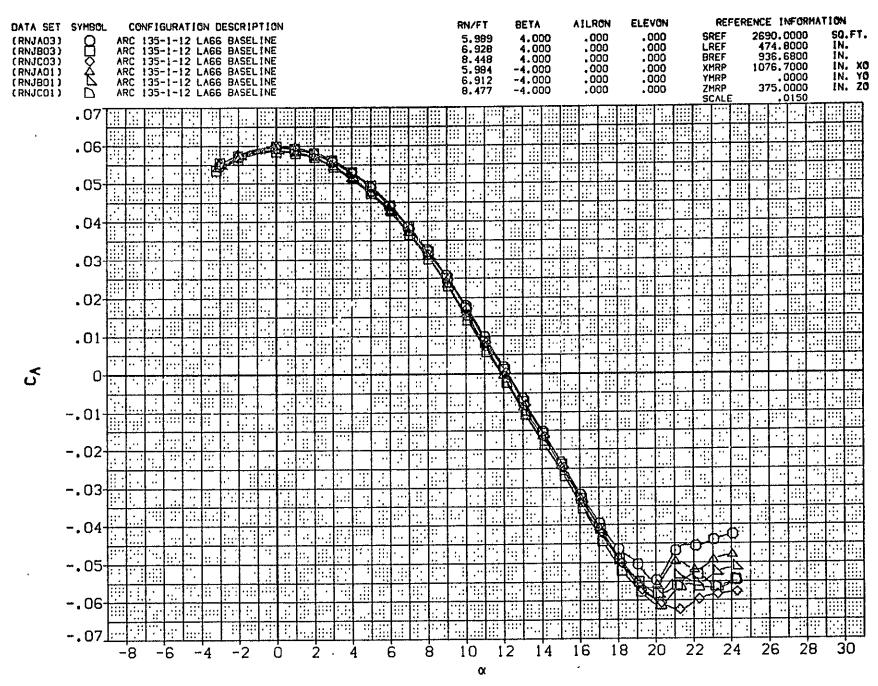


FIGURE 5. EFFECTS OF REYNOLDS NUMBER AT SIDESLIP

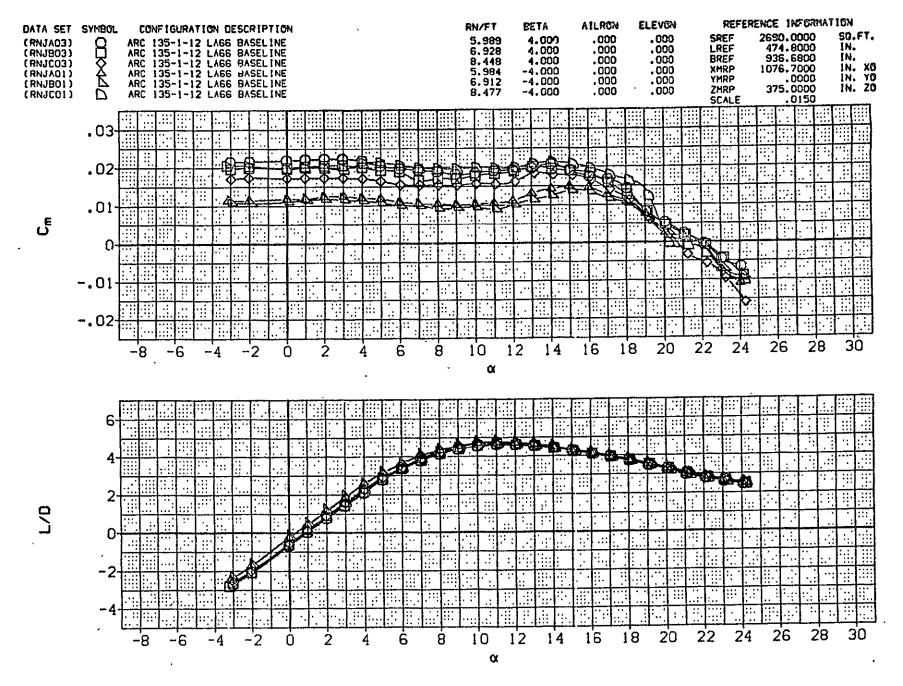


FIGURE 5. EFFECTS OF REYNOLDS NUMBER AT SIDESLIP

(A)MACH = .29 PAGE 10

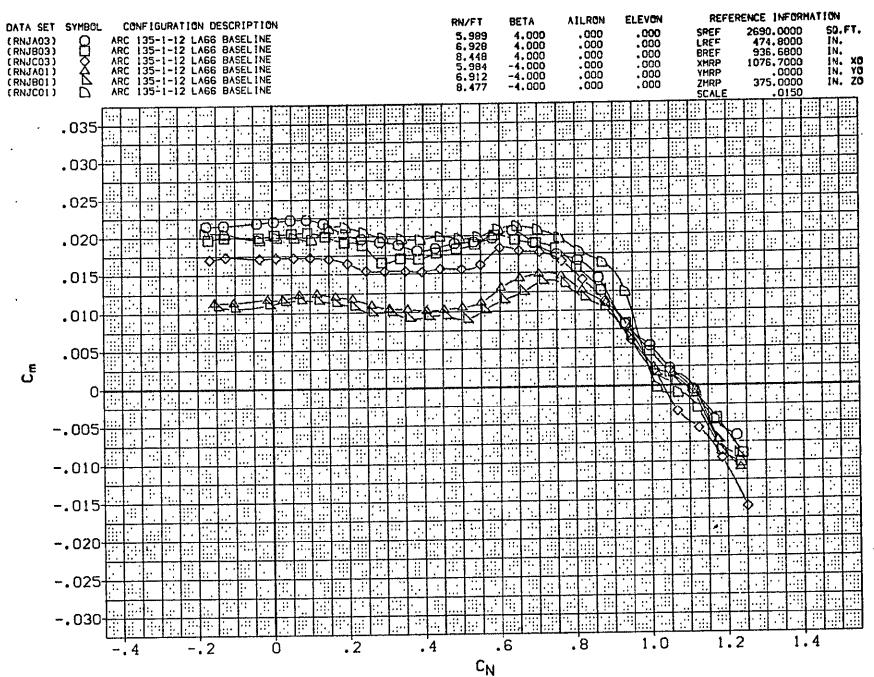


FIGURE 5. EFFECTS OF REYNOLDS NUMBER AT SIDESLIP

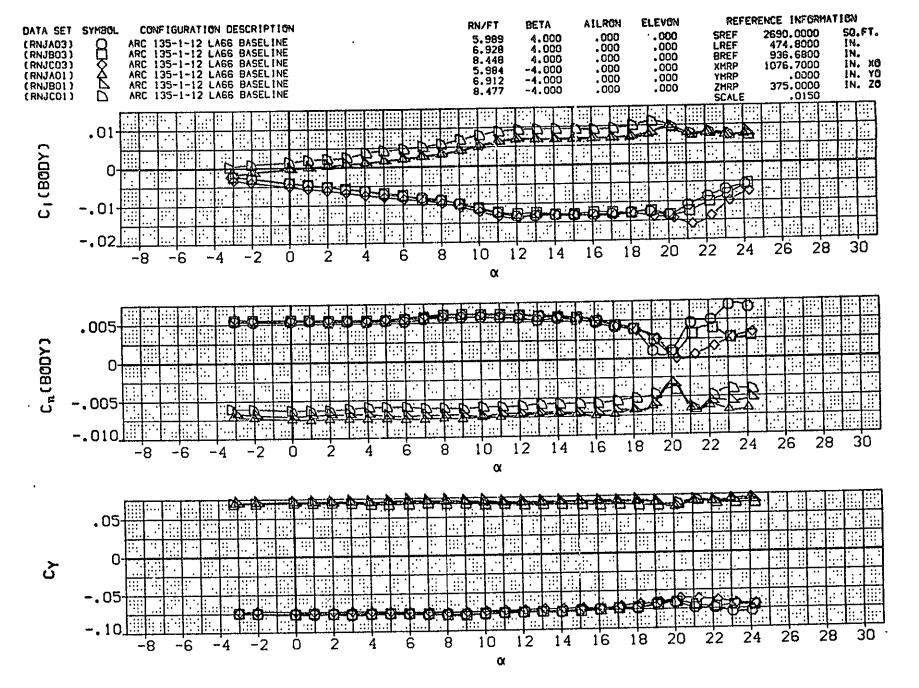


FIGURE 5. EFFECTS OF REYNOLDS NUMBER AT SIDESLIP

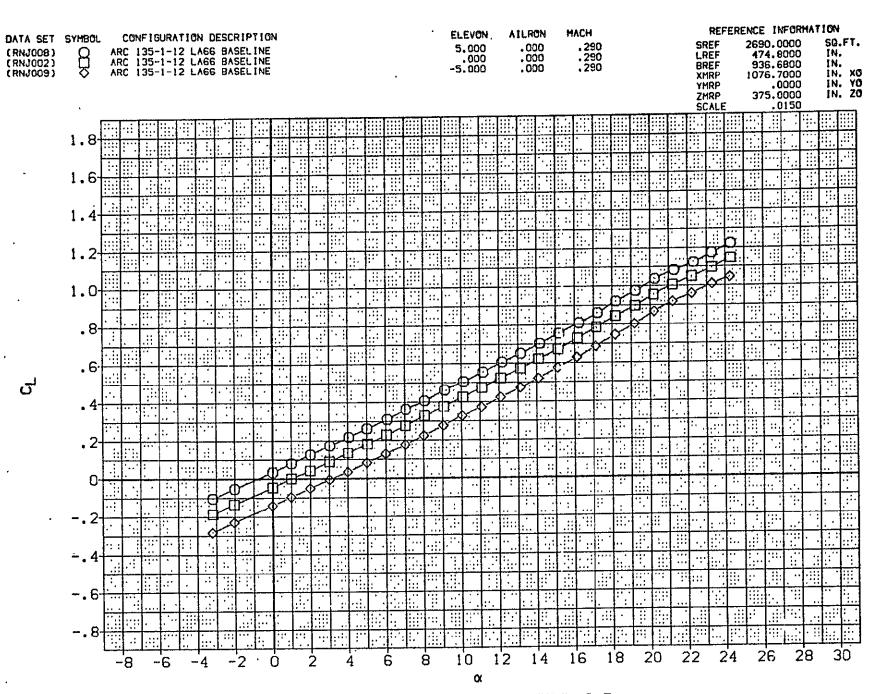


FIGURE 6. EFFECTS OF ELEVON DEFLECTION, BETA=0, RN/L=8.5

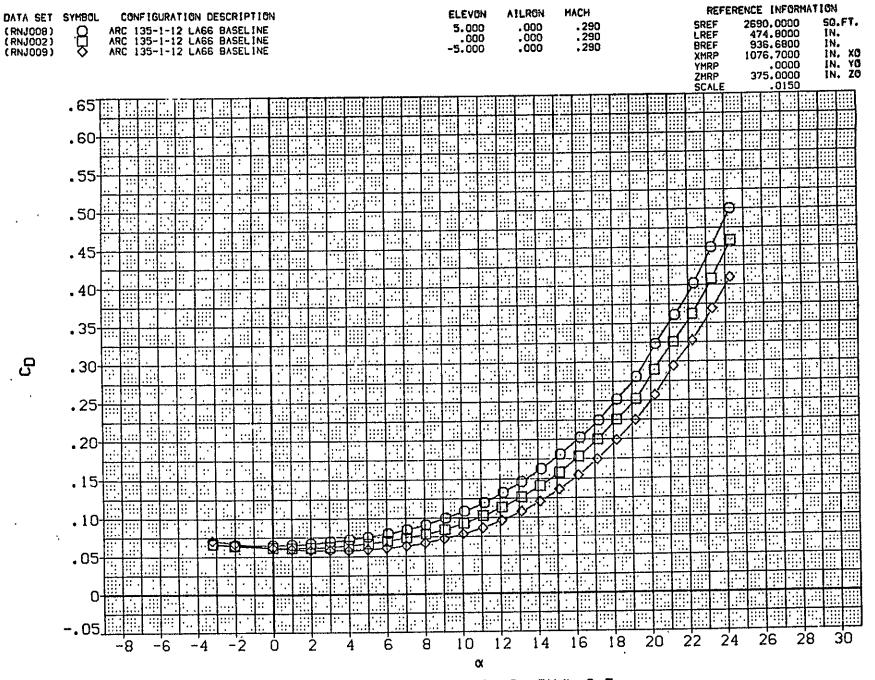


FIGURE 6. EFFECTS OF ELEVON DEFLECTION.BETA=0. RN/L=8.5

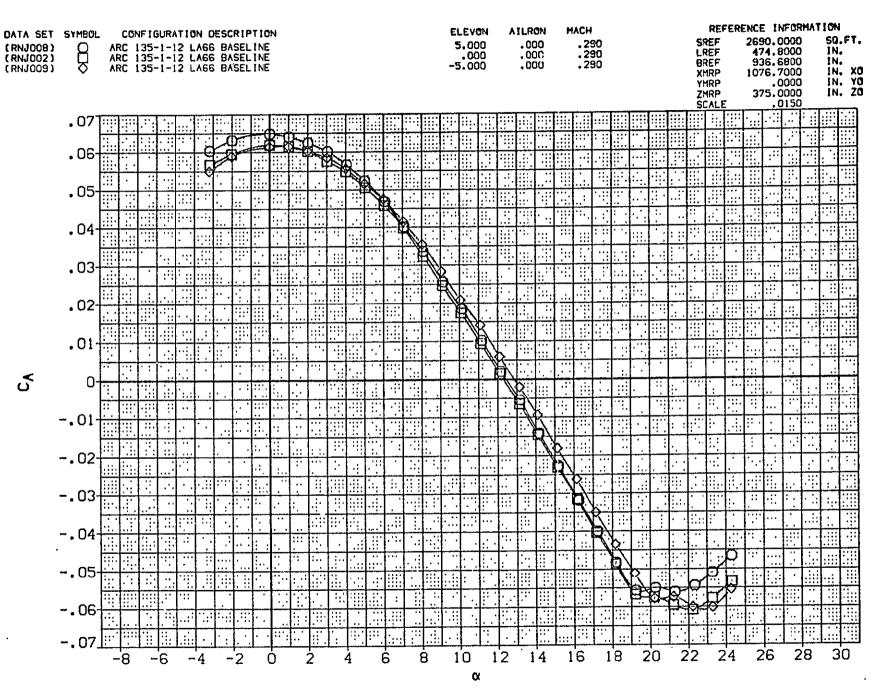


FIGURE 6. EFFECTS OF ELEVON DEFLECTION.BETA=0. RN/L=8.5

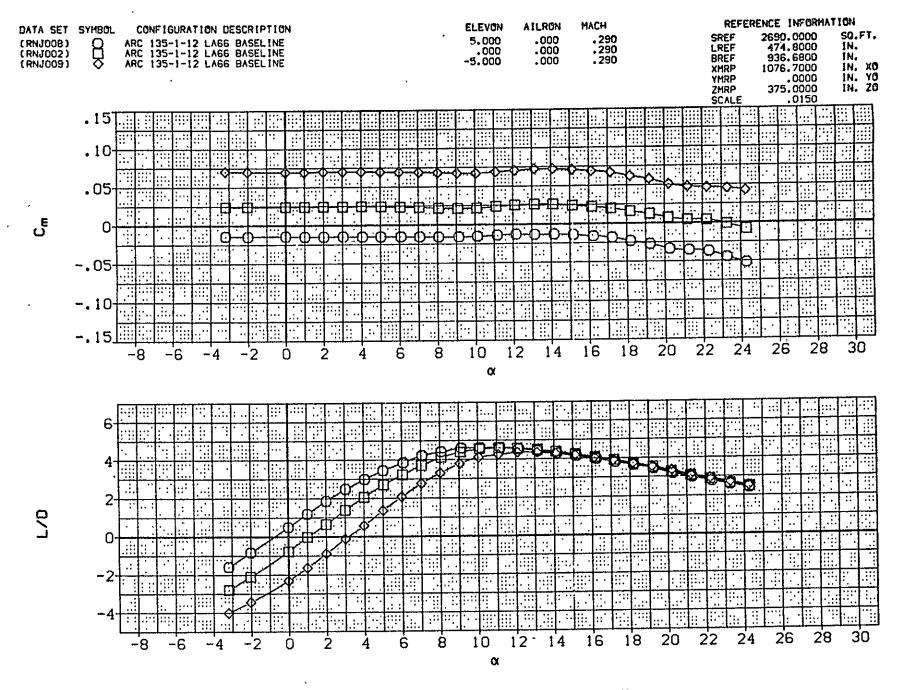


FIGURE 6. EFFECTS OF ELEVON DEFLECTION.BETA=0. RN/L=8.5

(A)RN/FT = 8.50

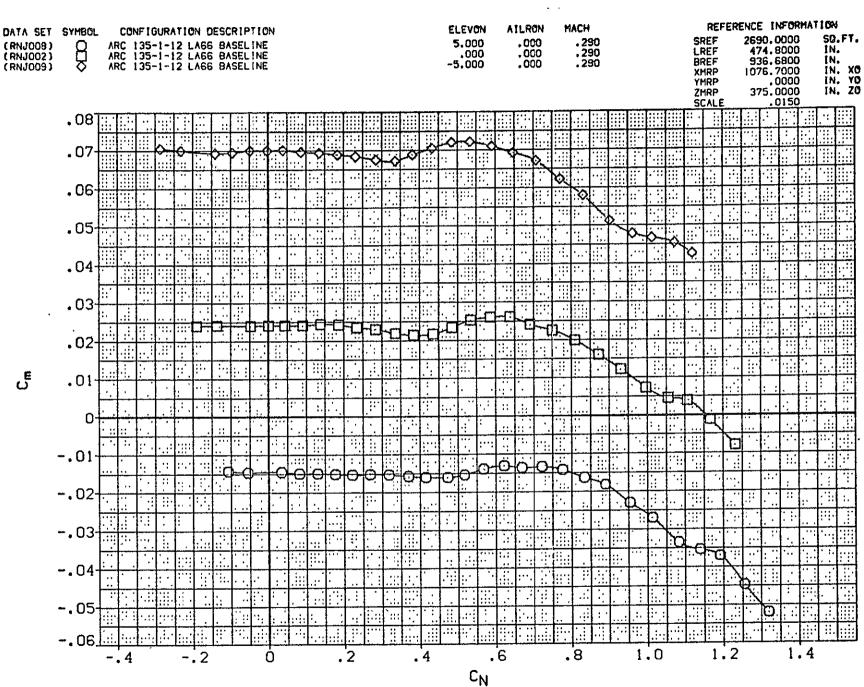


FIGURE 6. EFFECTS OF ELEVON DEFLECTION. BETA=0, RN/L=8.5

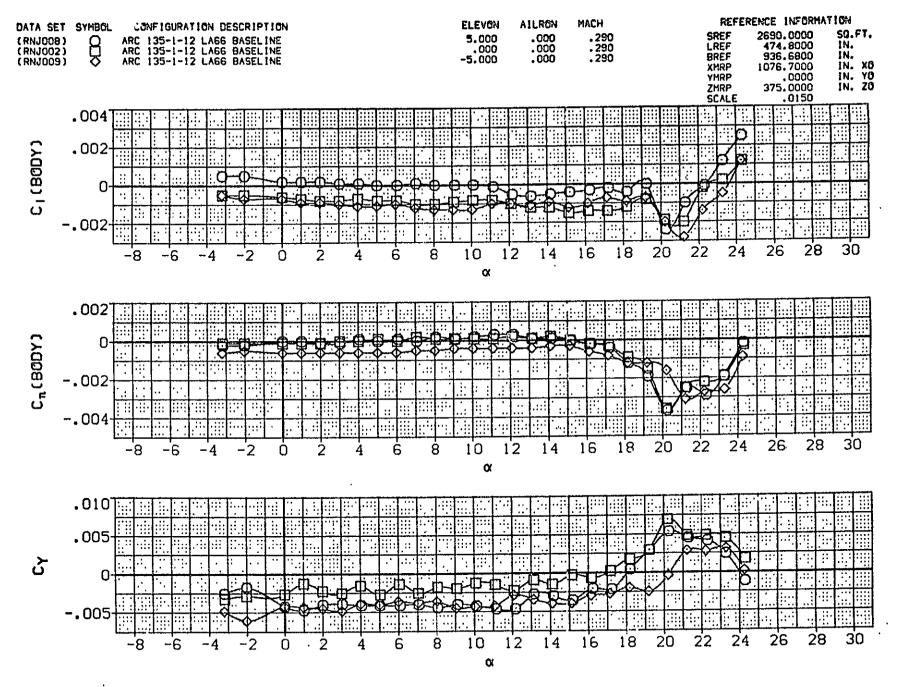


FIGURE 6. EFFECTS OF ELEVON DEFLECTION. BETA=0. RN/L=8.5

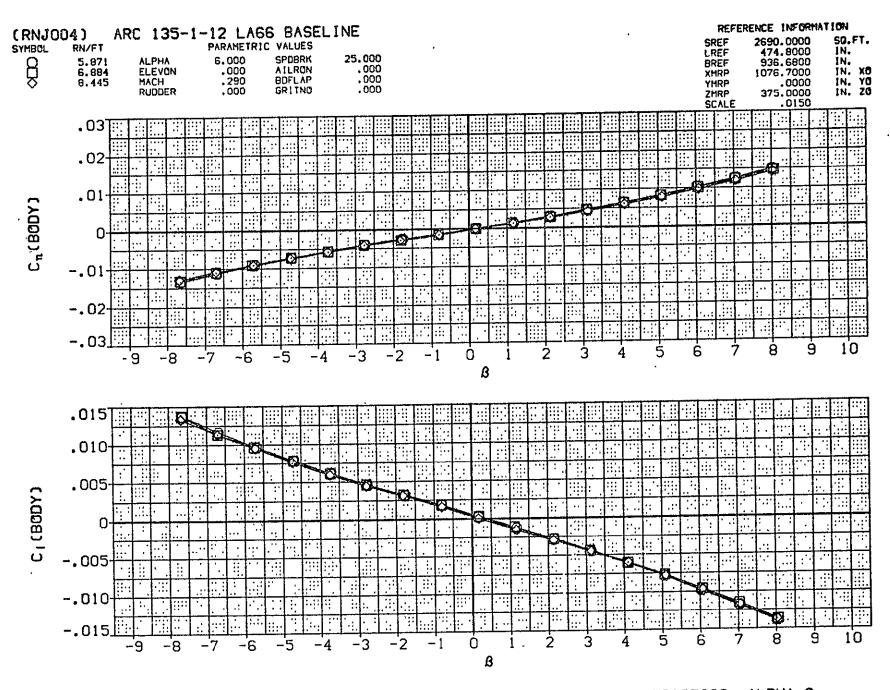


FIGURE 7(A). EFFECTS OF REYNOLDS NUMBER ON LATERAL CHARACTERISTICS. ALPHA=6

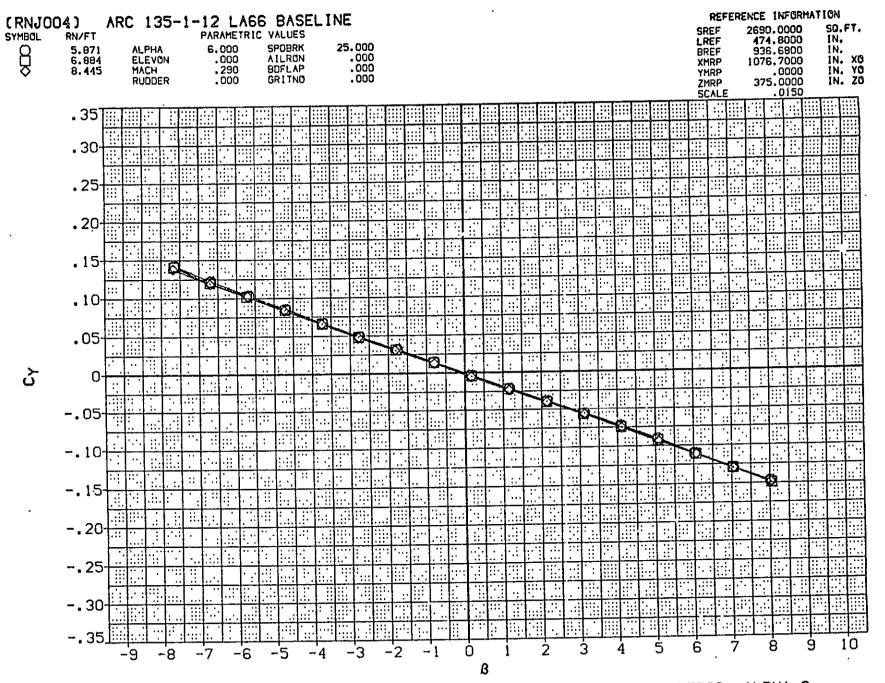


FIGURE 7(A). EFFECTS OF REYNOLDS NUMBER ON LATERAL CHARACTERISTICS. ALPHA=6

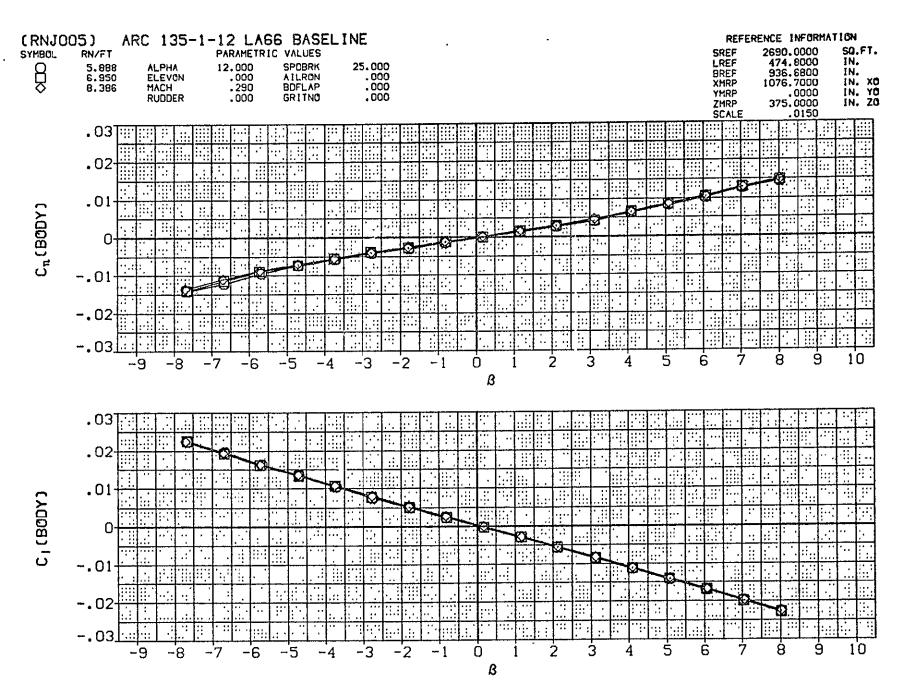


FIGURE 7(B). EFFECTS OF REYNOLDS NUMBER ON LATERAL CHARACTERISTICS. ALPHA=12

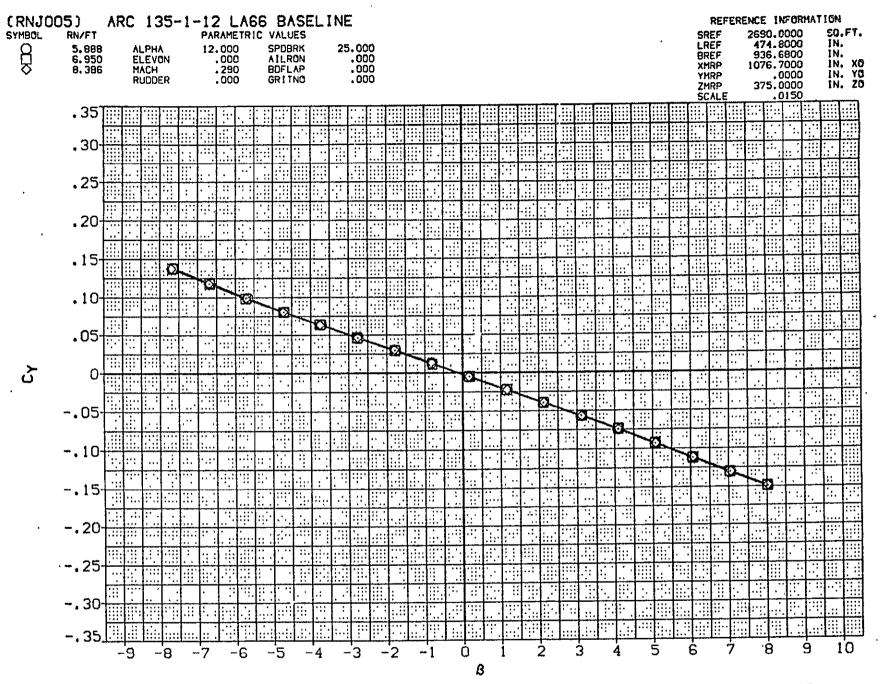


FIGURE 7(B). EFFECTS OF REYNOLDS NUMBER ON LATERAL CHARACTERISTICS. ALPHA=12

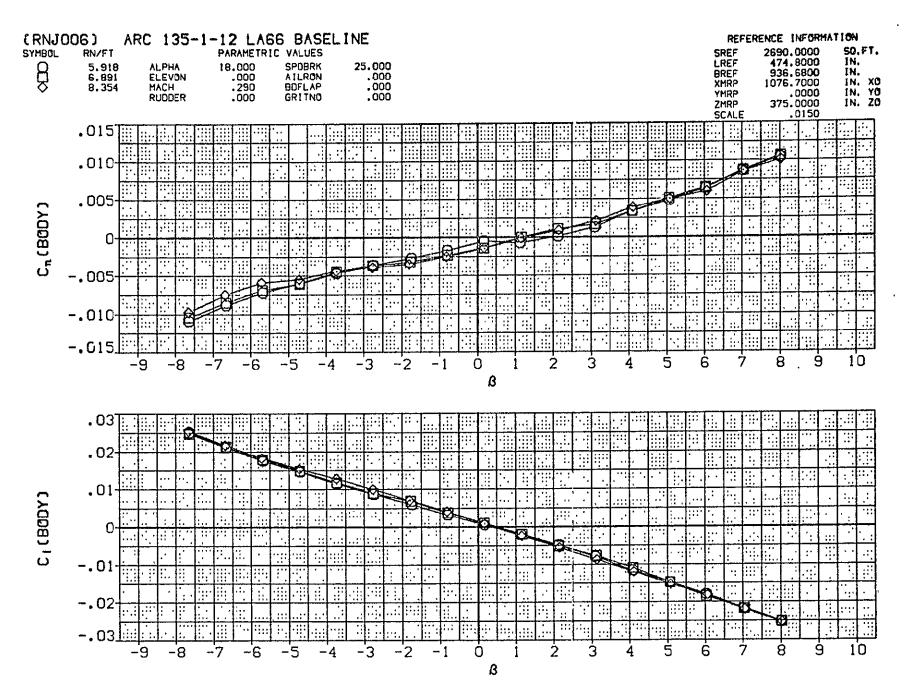


FIGURE 7(C). EFFECTS OF REYNOLDS NUMBER ON LATERAL CHARACTERISTICS, ALPHA=18

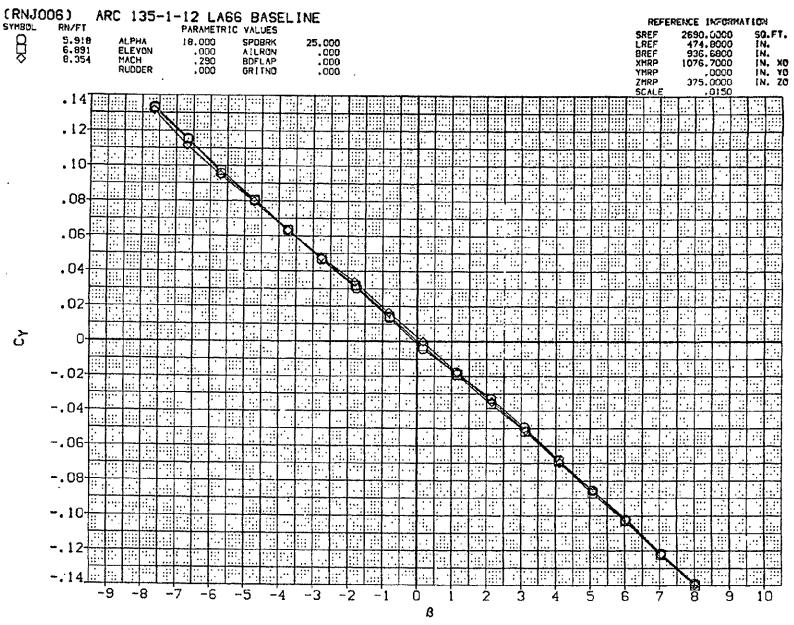


FIGURE 7(C). EFFECTS OF REYNOLDS NUMBER ON LATERAL CHARACTERISTICS. ALPHA=18
PAGE

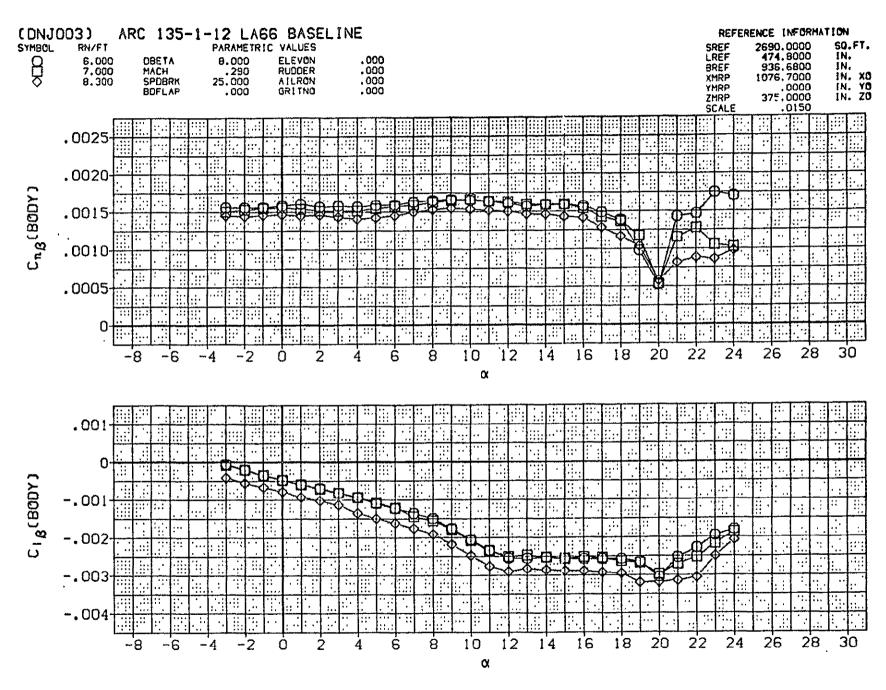


FIGURE 8. LATERAL STABILITY DERIVITIVES FROM PITCH RUNS AT BETA=4 AND -4

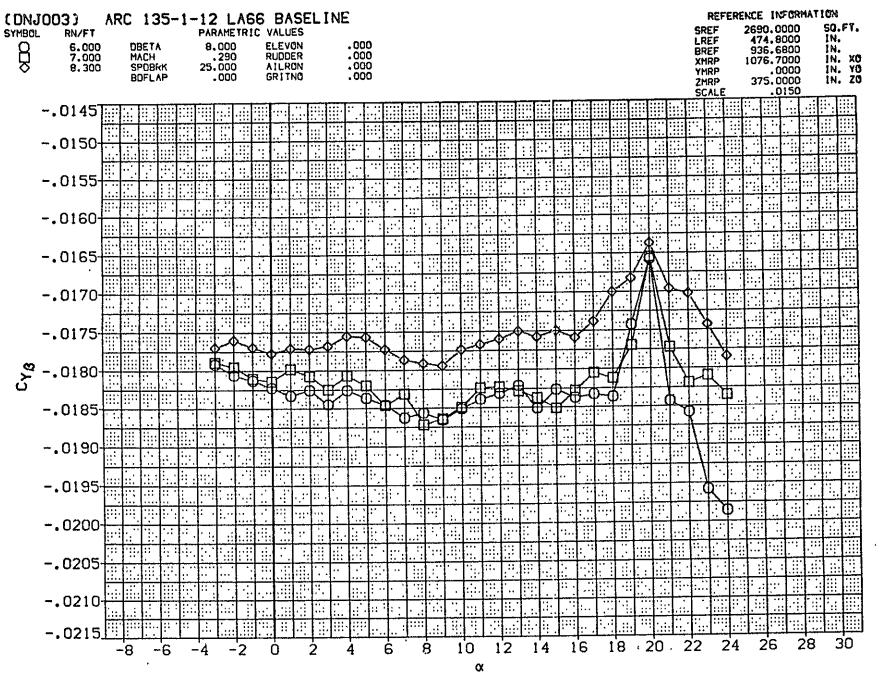


FIGURE 8. LATERAL STABILITY DERIVITIVES FROM PITCH RUNS AT BETA=4 AND -4

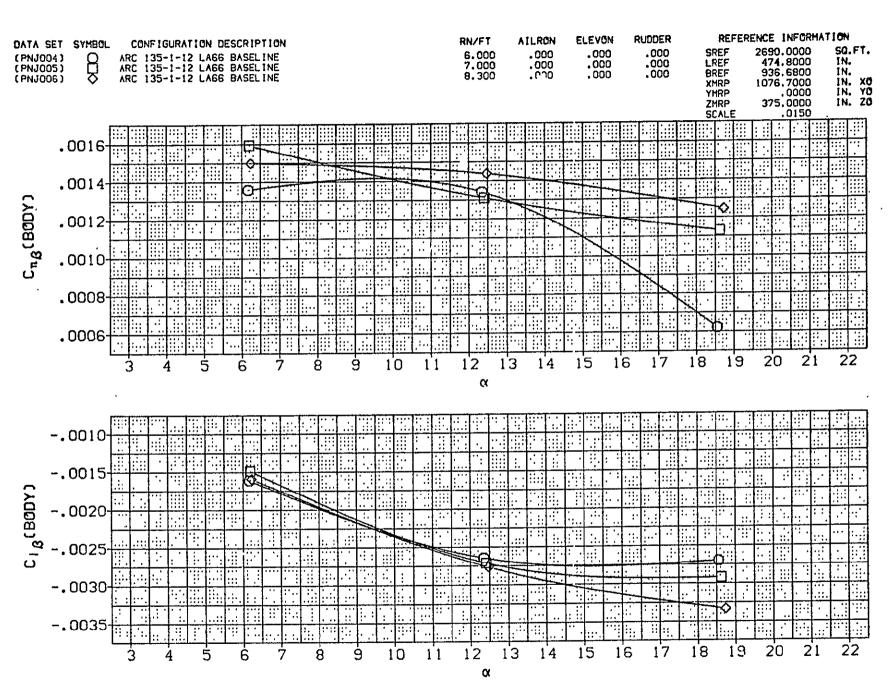


FIGURE 9. LATERAL STABILITY DERIVITIVES FROM YAW RUNS (AT ZERO SIDESLIP)

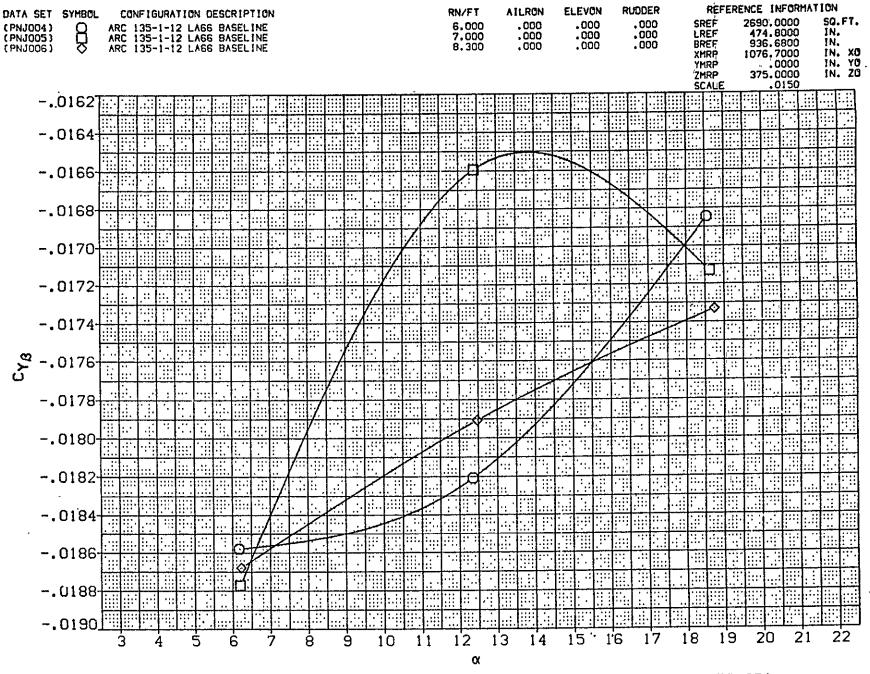


FIGURE 9. LATERAL STABILITY DERIVITIVES FROM YAW RUNS (AT ZERO SIDESLIP)

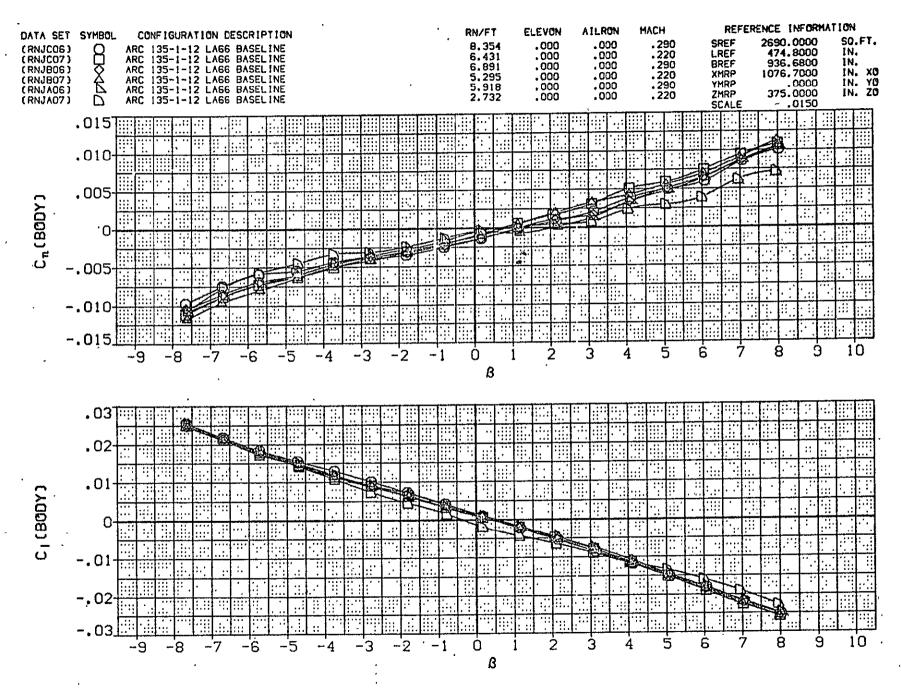


FIGURE 10. EFFECTS OF MACH' NUMBER ON LATERAL CHARACTERISTICS. ALPHA=18

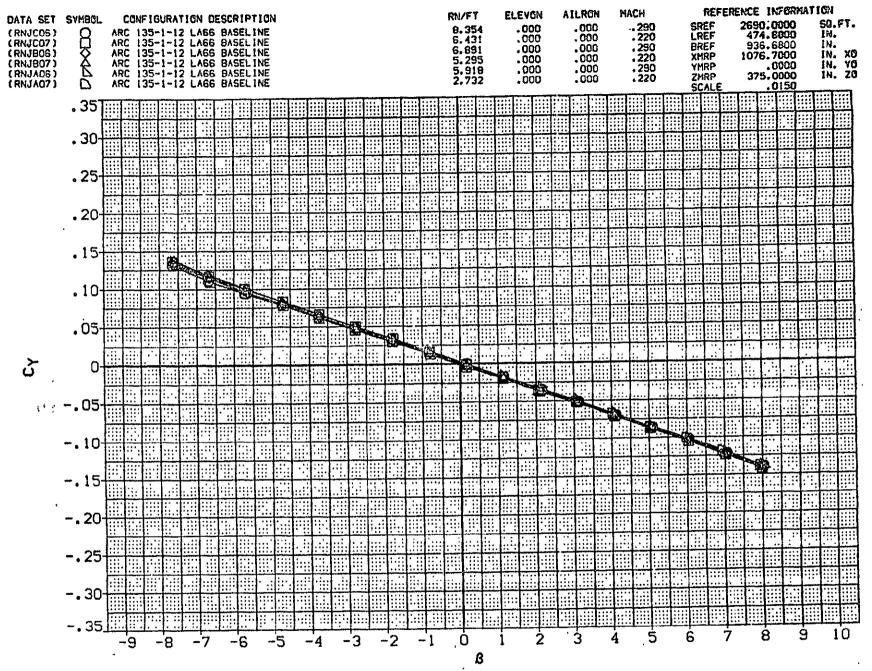


FIGURE 10. EFFECTS OF MACH NUMBER ON LATERAL CHARACTERISTICS. ALPHA=18

(A)ALPHA = 18.00 PAGE

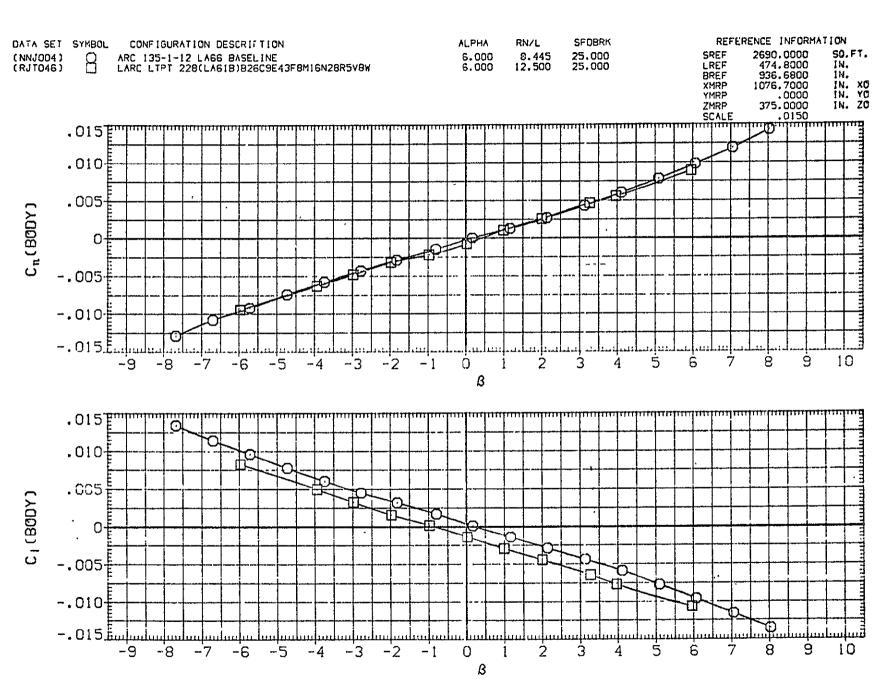
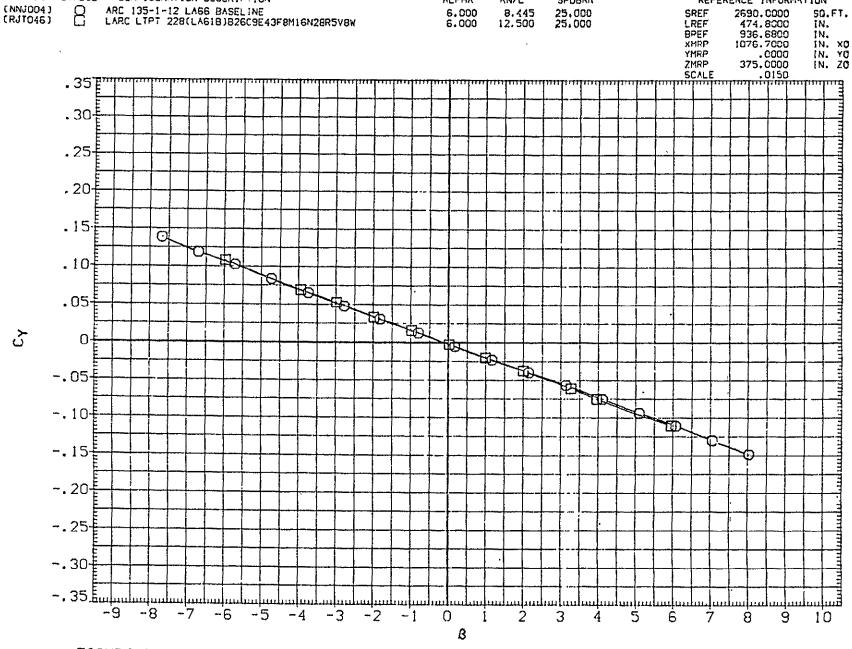


FIGURE 11. COMPARISON OF SIDESLIP DATA FROM LARC LTPT(LA61B) AND ARC 12FTTPT(LA66), ALPHA=6 DEG = .20 (B) .29



**ALPHA** 

RN/L

SPOBRK

FIGURE 11. COMPARISON OF SIDESLIP DATA FROM LARC LTPT(LA61B)
AND ARC 12FTTPT(LA66), ALPHA=6 DEG
(A)MACH = .20 (B) .29

DATA SET SYMBOL CONFIGURATION DESCRIPTION

REFERENCE INFORMATION

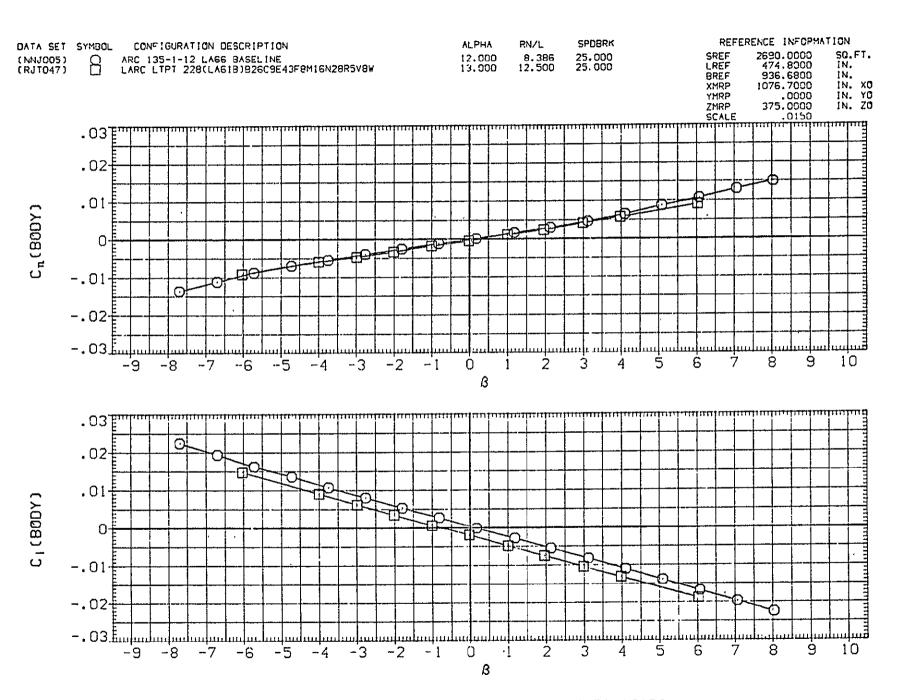
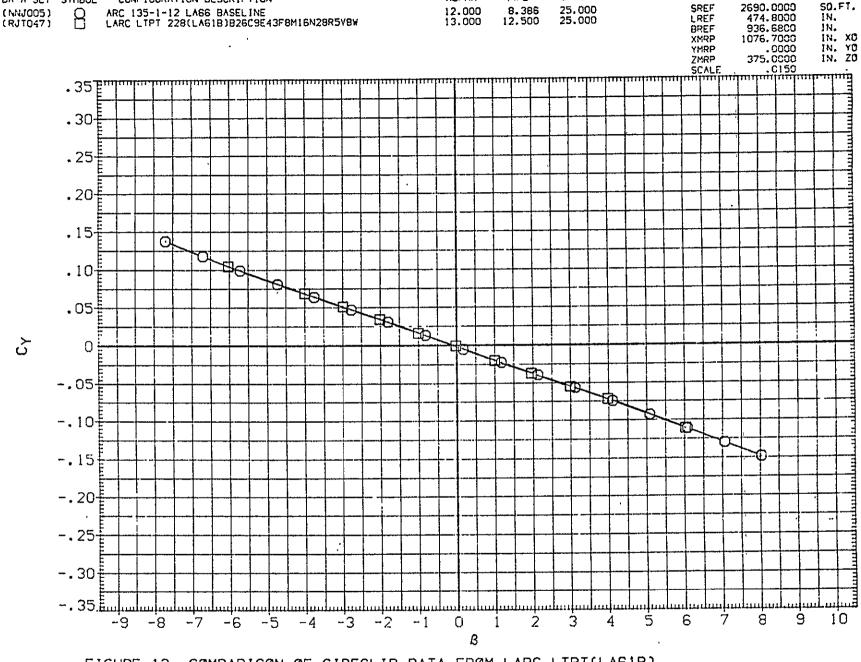


FIGURE 12. COMPARISON OF SIDESLIP DATA FROM LARC LTPT(LA61B)
AND ARC 12FTTPT(LA66), ALPHA=12/13 DEG
= .20 (B) .29



RN/L

**ALPHA** 

DATA SET SYMBOL CONFIGURATION DESCRIPTION

SPIJBRK

FIGURE 12. COMPARISON OF SIDESLIP DATA FROM LARC LTPT(LAG1B)
AND ARC 12FTTPT(LAG6), ALPHA=12/13 DEG
(A)MACH = .20 (B) .29

REFERENCE INFORMATION

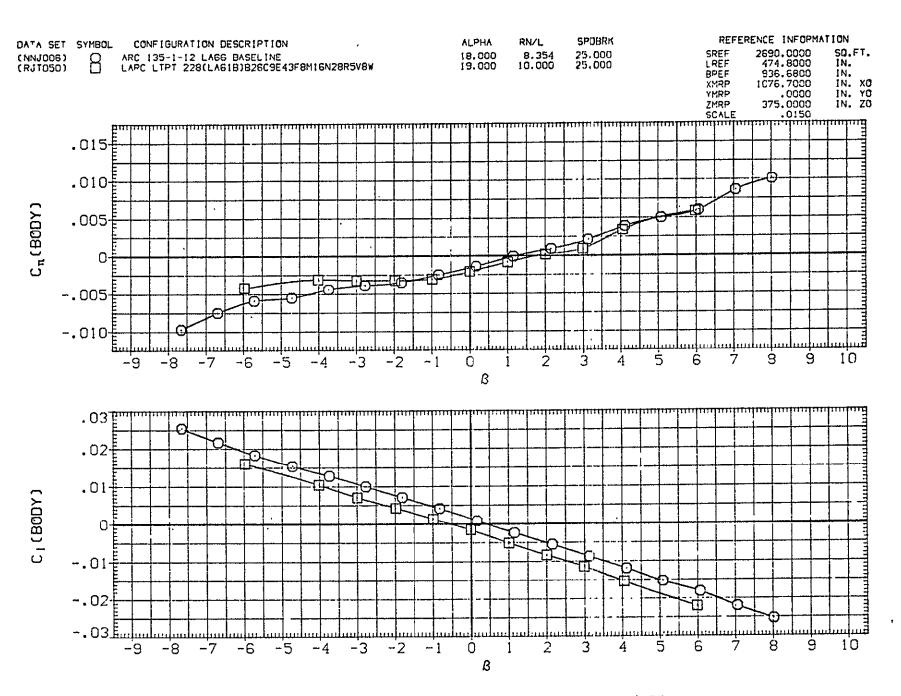
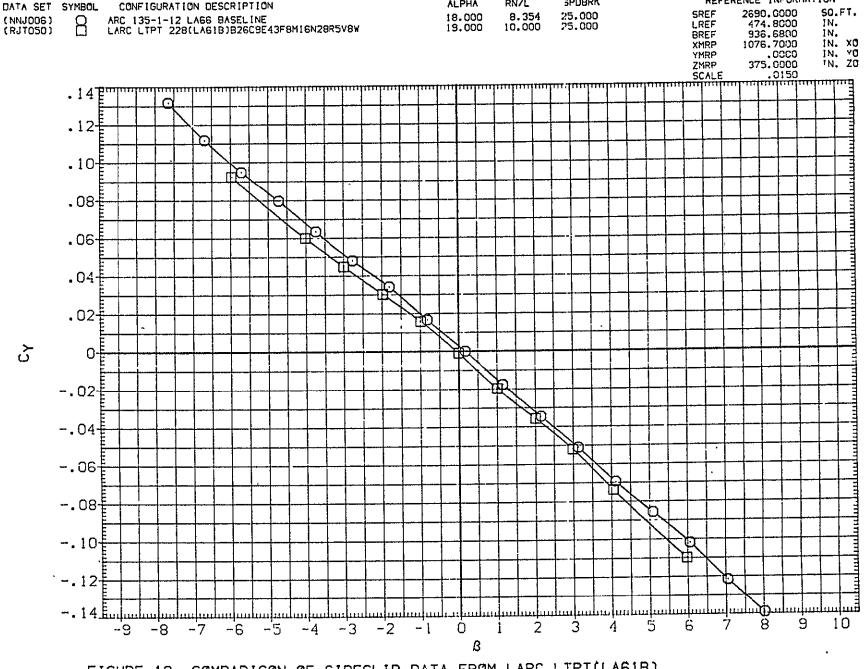


FIGURE 13. COMPARISON OF SIDESLIP DATA FROM LARC LTPT(LA61B)
AND ARC 12FTTPT(LA66), ALPHA=18/19 DEG
= .23 (B) .29



ALPHA

RN/L

FIGURE 13. COMPARISON OF SIDESLIP DATA FROM LARC LTPT(LA61B) AND ARC 12FTTPT(LA66), ALPHA=18/19 DEG (A)MACH .23 (B)

REFERENCE INFORMATION

**SPDBRK** 

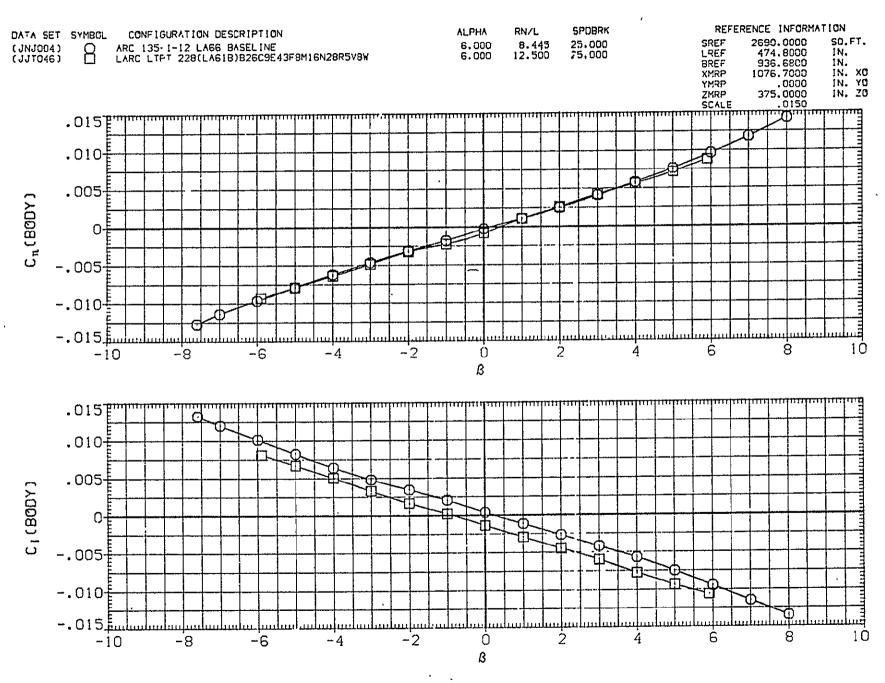
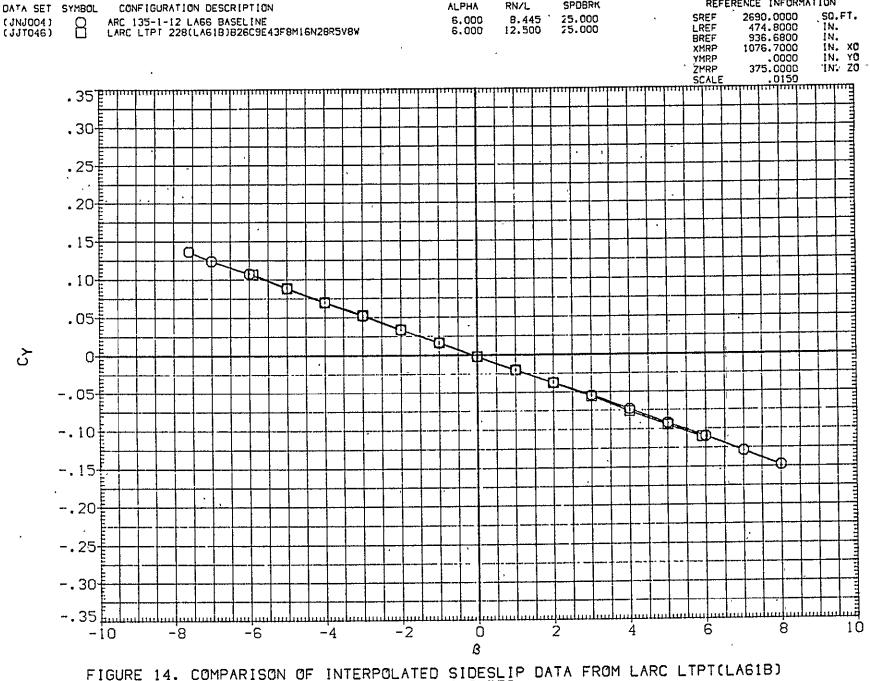


FIGURE 14. COMPARISON OF INTERPOLATED SIDESLIP DATA FROM LARC LTPT(LA61B) AND ARC 12FTTPT(LA66), ALPHA=6 DEG PA

37 PAGE (A)MACH



REFERENCE INFORMATION

SPDBRK

FIGURE 14. COMPARISON OF INTERPOLATED SIDESLIP DATA FROM LARC LTPT(LA61B) AND ARC 12FTTPT(LA66). ALPHA=6 DEG

= .20 (B) .29 38 PAGE (A)MACH

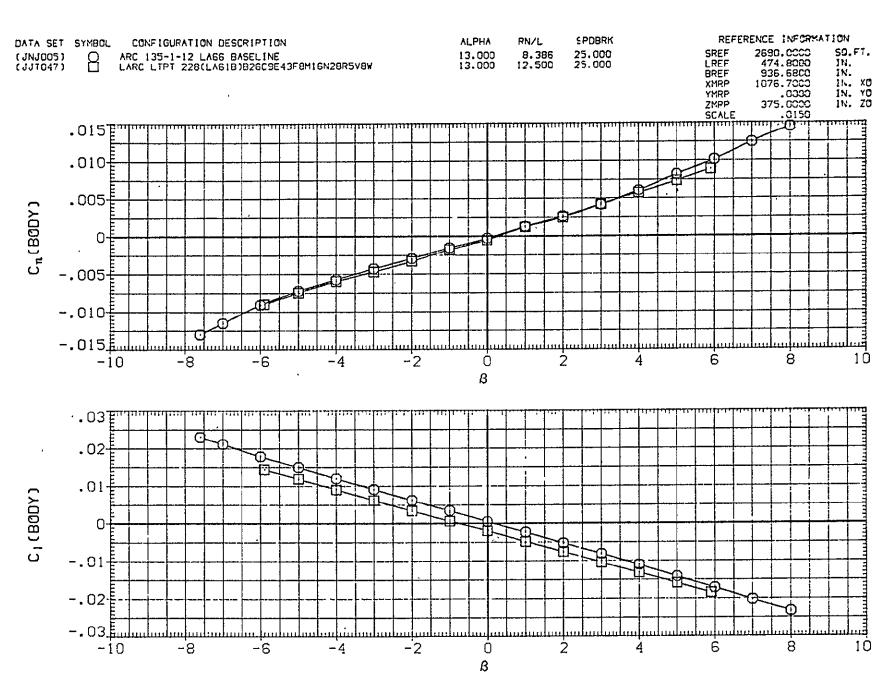


FIGURE 15. COMPARISON OF INTERPOLATED SIDESLIP DATA FROM LARC LTPT(LA61B)
AND ARC 12FTTPT(LA66). ALPHA=13 DEG
= .20 (B) .29

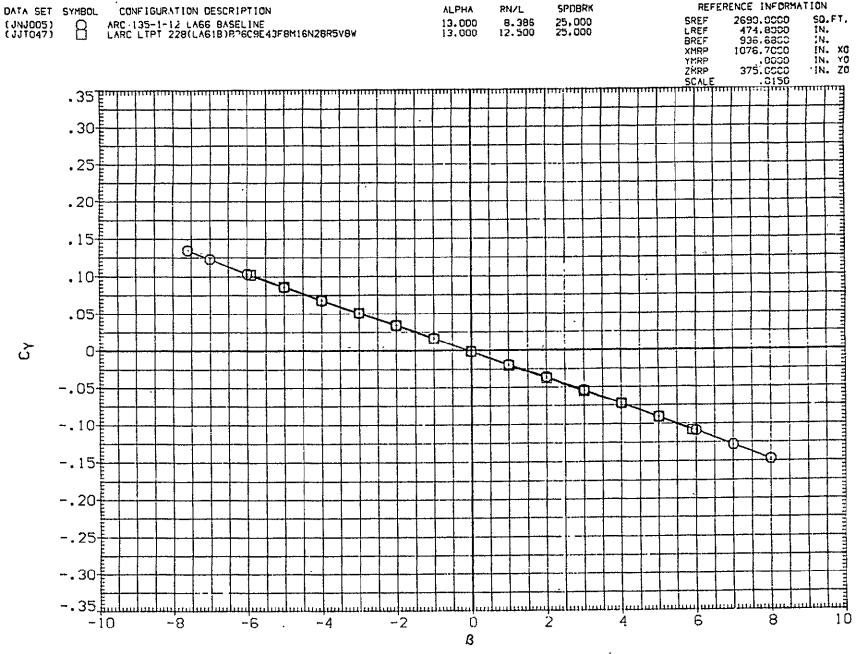


FIGURE 15. COMPARISON OF INTERPOLATED SIDESLIP DATA FROM LARC LTPT(LA61B)
AND ARC 12FTTPT(LA66), ALPHA=13 DEG

(A)MACH = .20 (B) .29

PAGE

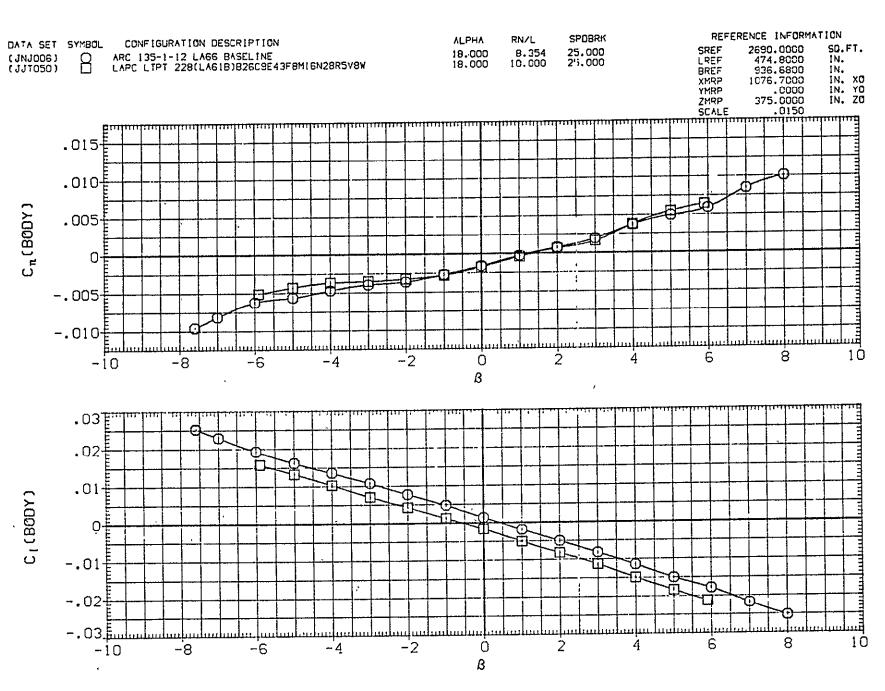


FIGURE 16. COMPARISON OF INTERPOLATED SIDESLIP DATA FROM LARC LTPT(LA61B)
AND ARC 12FTTPT(LA66), ALPHA=18 DEG
PAGE

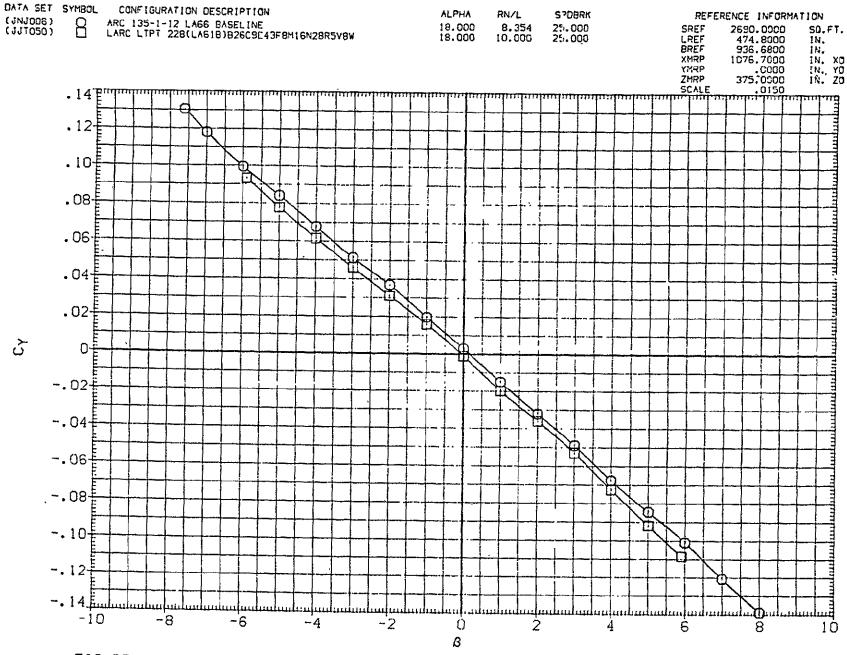


FIGURE 16. COMPARISON OF INTERPOLATED SIDESLIP DATA FROM LARC LTPT(LA61B)

AND ARC 12FTTPT(LA66). ALPHA=18 DEG

PAGE

PAGE

# APPENDIX

TABULATED SOURCE DATA

Tabulations of plotted data are available upon request from Data Management Services

## PAGE LAGE TABULATED SOURCE DATA

.29280 .33250 .37150 .41430

.45920

.00032

2.65500

2, 49640

69570

1

( 24 NOV 75 )

(RNJ001)

.00700 .00770 .00980 .00790 .00790

.00740

.00041

-.00660 -.00620 -.00680

-.00650

.-.00003

.06970

.07110

.00010

ARC 135-1-12 LAGE BASELINE

.67000

.61000 .61000

.00183

**DATE 19 AUG 76** 

5.879

5.875

, 5.860

18.030 19.020 20.070 21.040 22.040 23.030 24.050 GRADIENT

REFERENCE DATA    SREF												
SREF   2680 .0000 SO.FT.   XMRP   0.000		REFERENC	E DATA						1	PARAMETRIC	DATA	
RN/FT ALPHA ELEVON CN CA CLM CL CD L/D CBL CYN CY C998	LREF = BREF =	474.8000 IN. 936.6800 IN.	YMRP	= .0	000 IN. YO				ELEVON = MACH =	.000 .290	AILRON = BDFLAP =	.000 .000
RN/FT ALPHA ELEVON CN CA CLM CL		•	RUN NO.	14/ 0	RN/L =	5.96 GRA	DIENT INTER	VAL = -5.0	5.00		•	,
	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	-3.150 -2:010 -000 -990 1.980 3.010 3.980 5.000 6.000 6.000 10.010 11.090 11.090 14.030 14.030 14.030 14.030 19.020 19.020	1.65000 1.65000 1.65000 1.65000 1.67000 1.67000 1.66000 1.65000 1.65000 1.65000 1.63000 1.63000 1.59000 1.59000 1.50000 1.50000 1.50000 1.50000 1.50000 1.50000 1.70000 1.70000	155201036001330 .02560 .07060 .11780 .16710 .21170 .26310 .31070 .40670 .45390 .50170 .55080 .60310 .65330 .70253 .76190 .81850 .894100 1.00580	.05420 .05680 .05680 .05910 .05700 .05750 .05130 .04730 .04260 .03710 .03090 .01580 .00780 00880 01650 023260 048470 048470 05580	.01140 .01140 .01140 .01180 .01250 .01250 .01210 .01180 .01050 .01050 .01050 .01060 .01180 .01180 .01180 .01180 .01180 .01180 .01180 .01180 .01180 .01250	15200 10160 01330 .02560 .06860 .11470 .16320 .20680 .25720 .30320 .34950 .39800 .44420 .49100 .53680 .63780 .62533 .74130 .79460 .85210 .96390	. 06260 .06040 .05900 .05940 .06060 .06280 .06560 .06990 .07460 .08030 .09450 .11400 .12720 .14230 .15959 .17890 .20470 .25490 .25490 .33250	-2.42630 -1.68110 -22490 .15560 1.89210 2.59970 3.15380 3.67830 4.06420 4.35240 4.58330 4.74980 4.74980 4.74980 4.74980 4.74980 4.74980 4.74980 4.74980 4.74980 3.76290 3.76290 3.76290 3.762900 3.765900 3.7640	001900012000030 .00030 .00030 .00110 .00160 .00200 .00310 .00400 .00500 .00500 .00610 .00690 .00690 .00690 .00770 .00690 .00770	00720 00730 00750 00750 00750 00750 00750 00760 00760 00740 00740 00740 00710 00710 00710 00710 00730 00620 00620 00620 00620	.07040 .07090 .07160 .07160 .07160 .07170 .07170 .07170 .07180 .07240 .07160 .06950 .06970 .06880 .06810 .06970 .06990 .06990 .06990 .06650 .06650

-.00070 -.00720 -.01080

.00010

1.11800

1.17480

1.23390 04468

~.05190

-.04920 -.04790

-.000a2

1.10040

1.1-530

# ARC 135-1-12 LAGE BASELINE

(RNJ001) ( 24,NOV 75 )

# PARAMETRIC DATA REFERENCE DATA

H	EFERENCE DATA			•					0000011 -	25.000
LREF = 474.8 BREF = 935.6	0000 SQ.FT. XMR1 2000 IN. YMR1 8800 IN. ZMR1	.00	000 IN. XO 000 IN. YO 000 IN. ZO	·.			BETA = ELEVON = MACH = RUDDER =	.000 .000 .290 .000	SPDBRK = AILRON = BDFLAP = GRITNO =	.000 .000 .000
SCALE = .0	1150		•							
	RUN N	0. 13/ 0	RN/L =	6.89 GRA	DIENT INȚERV	/AL = -5.0	0/ 5.00			
6.912 -3 6.895 -1 6.895 -1 6.8876 -6 6.885 -6 6.885 -6 6.887 -6 6.887 -6 6.887 -6 6.887 -6 6.887 -6 6.872 -1 6.857 -1 6.858 -1 6.	PHA ELEVON 5.010 1.63000 1.940 1.62000 0.020 1.63000 2.000 1.63000 2.000 1.63000 2.000 1.65000 5.000 1.65000 5.000 1.65000 7.020 1.66000 7.020 1.67000 3.020 1.66000 7.020 1.62000	CN148801033001160 .02990 .07330 .11970 .16630 .21370 .26150 .31330 .35970 .40930 .45770 .50950 .660950 .660950 .67150 .76870 .82230 .87460 1.00930 1.11280 1.1750 1.22510 .0451	CA .05480 .05720 .05880 .05720 .05850 .05710 .05460 .05160 .04760 .03700 .03700 .0380 .01490 .0069001820055500555005560055600560005870	CLM .01090 .01170 .01150 .01170 .01150 .01170 .01180 .01080 .01000 .010920 .00940 .00950 .00950 .01250 .00050	CL1457010130011600288607130116701623020870255503064035180406044810500505960064550693807482098409081090850 1.00850 1.10050 1.1393004417	CD .06260 .05960 .05980 .05960 .05960 .05960 .06300 .06610 .07500 .08730 .09440 .11540 .12800 .17990 .20140 .225530 .29570 .35200 .36810 .41370 .45509 .00037	L/D -2.32890 -1.66920 -1.9710 .48860 1.19680 1.92090 2.57470 3.15950 3.64840 4.08290 4.36110 4.58610 4.74890 4.77950 4.77950 4.7950 4.7950 4.52230 4.15910 3.96460 3.77330 3.55550 3.30800 3.03770 2.66970 2.69855	CBL	00570	CY .07080 .07110 .07100 .07100 .07100 .07100 .07190 .07140 .07150 .07150 .07150 .07150 .07150 .07150 .07150 .06920 .06920 .06910 .06950 .06950 .06910 .066760 .06760 .06760 .06760
		•			•	. ,				

DATE 19 AUG 76	LAGG TABULATED SOURCE DATA	PAGE

## ( 24 NOV 75 ) (RNJ001) ARC 135-1-12 LASS BASELINE

3

.00000

.71576 .

.00043

### PARAMETRIC DATA REFERENCE DATA SPDBRK = 25,000 -4.000 BETA = 1076,7000 IN. XO XMRP = 2690.0000 SQ.FT. SREF AILRON = .000 .000 ELEVON = = .0000 IN. YO. LREF 474.8000 IN. YMRP .000 BOFLAP = .290 MACH BREF = SCALE = ZMRP 375.0000 IN. ZO 936,6800 IN. .000 GRITNO = .000 RUDDER = .0150 GRADIENT INTERVAL = -5.00/ 5.00 8.43 RUN NO. 12/ 0 RN/L = CY L/D CBL CYN CD CA CLM -ELEVON CN RN/FT ALPHA .07060 .00030 -.00500 . -2.77740 .06350 -.17650 1.05360 .02060 -3.200 -.17980-.06000 8.477 .07090 -.00610 .00090 .06080 ·-2.04680 .02050 -.12450 .05640 -.07000 -.126608.468 .07150 .00150 -.00630 -.56090 -.03290 .05860 -.03290 .05860 .01970 8.442 -.010 -.04000 .07080 -.00530 .00200 .05840 .10220 .01060 .05820 .02000 -.02000 .01170 8.436 1.010 .07080 -.00630 .00230 .93420 .05910 .05520 .05720 .05710 .02000 8.420 -.04000 2.020 .07020 .00260 -.005:0 1.68410 .10120 .060:0 .05460 .01970 .04000 .10430 8.419 3.060 -.00530 .06880 .00380 .06200 2.35490 .14600 .05150 .02120 .15000 -.01000 8.415 4.080 .06820 .00430 -.00590 .05440 2.94120 .18930 .04750 .02130 5.020 -.07000 .19420 8.416 -.00590 .06860 .06820 3.46890 .00470 .04280 .23660 .24250 .02060 6.080 -.06000 8.403 8.405 8.409 8.399 8.392 8.371 8.376 8.376 8.356 8.377 8.332 8.332 8.332 8.332 .06960 .00530 -.00510 3.95920 .07240 .28670 .03660 .01990 7.070 -.06000 .29350 .06850 .00590 -.00610 .03010 4.29820 .07790 .01970 .33460 .34230 -.07000 8.060 .06880 -.00620 .00700 4.52310 .38230 .08450 .02310 .01960 9.080 -.07000 .39090 .06750 .00810 -.00600 4.72830 .43400 .09180 .01420 .02000 10.100 -.10000 .44340 .06760 -.00500 4.78250 .00900 .48400 .10120 .01970 -.08000 - 63300 .49440 .00590 11,120 -.00590 .06570 იენოე 4.73430 .53190 .11230 -.00320 .01990 .E1.350 12,160 .05630 .00950 -.00570 4.64440 -.01050 .58230 .12540 .59550 .02090 -.05000 13.160 .06510 -.00570 .00950 4.51360 .63130 .13990 -.01870 .02130 14.150 -.09000 .64640 ..06550 -.00570 .68290 .73570 .78800 .00940 4.33000 .15770 -.02690 .02080 -.02000 .70030 .05470 15.210 .00920 -.00370 4.17310 .17650 .01970 -.03550 .03000 . /5070 16.160 .06500 .00950 -.00540 .19750 3.98970 .01790 -.04420 .00000 .81120 17.190 .01010 -.00516 .06370 3.78860 .22290 .84460 -.05200 .01640 18.200 .01000 .87190 .06320 -.00450 .89770 .01110 .25180 3.56580 .01250 -.05760 19.210 -.08000 :93060 .06550 .00960 -.00410 .29460 3.30430 .97350 -.00010 .00000 -.0510020.280 1.01520 .06940 -.00550 .00780 .33540 3.02310 -.05510 -.05520 1.01680 1.06960 -100080 .03000 21.310 -.00480 .06600 .00820 2.83920 .37290 -.00290 1.05880 .15000 1.12110 22.270 .06540 -.08-00 .00750 2.66350 1.11100 .41710 -.00850 -.05620 .06000 1.18040 8.303 23.290 .06500 . -.00410 .00730 -.05410 -.01000 -.00024 -.00000 1.14820 .45900 2.50130 8.336 24.300 -.11000 1.23540 -.00019

.01086

GRADIENT

.04533

.04432

.-.00023

(RNJ002) ( 24 NOV 75 )

-.00240 -.00210 -.00220

-.00220

-.00230

-.00220

-.00300

-.00500

-.00350 -.00300 -.00230 -.00230 -.00200

-.00004

-.01170

-.01210

-.01370

-.01280

-.01200

-.01010

-.00820

-.00550

-.00820

-.00970

-.01C20

-.00750

-.00670

.00005

ARC 135-1-12 LARS BASELINE

.45570

.50460

.55200

.60720

.66600

.72280

.76780

.84940 .92270

.97130

1.03920

1.10760

1.18060

1.25170

.04217

.00000

.01000

-.01000

..00000

-.03000

-.02000

-.04000

-.01000

-.01000

-.03000

-.01000

-.02000

~.04000

.00675

.00000

1.966

1.965

1.953

1.963 1.963 1.961

1.962

1.963

1.959

1.964

1.959

1.959

1.958

1.954

10.780

11.770

12 779

13.730

14.710

15.710

16.690

17.660

18.660

19.630

20.620

21.610

22.600

23.590

GRADIENT

			ARÇ	132-1-15 FW	DO BAZELINE	•			17.01000	• • • • • • • • • • • • • • • • • • • •	
	REFERENC	E DATA		•					PARAMETRIC	DATA	
LREF =	690.0000 SQ. 474.8000 IN. 936.6800 IN. .0150	YMRP	= .0	000 IN. XO 000 IN. YO 000 IN. ZO				BETA = ELEVON = MACH = RUDDER =	.000 .000 .290 .000	SPDBRK = AILRON = BDFLAP = GRIINO =	25.000 .000 .000 .000
		RUN NO.	8/ 0	RN/L =	1.97 GRA	DIENT INTER	VAL ≈ -5.0	00/ 5.00		•	
RN/FT 1.972 1.968 1.966 1.963 1.971 1.971 1.968 1.968 1.968 1.966 1.968	ALPHA -3.100 -1.940 .000 1.040 1.940 2.940 3.930 4.950 5.870 6.860 7.840 9.820	ELEVON0600008000130001300005000050000500005000030000100001000	CN - 17610 - 12640 - 03890 - 00010 - 03030 - 07860 - 12020 - 16760 - 20990 - 25780 - 30550 - 30510 - 40960	CA .05500 .05900 .05980 .05520 .05530 .05240 .04850 .04430 .03910 .03340 .02670	CLM .02490 .02550 .02690 .02790 .02770 .02820 .02760 .02650 .02680 .02670	CL 17280 12430 03890 00100 .02840 .07560 .11630 .16270 .20430 .25130 .29800 .34580 .40010	CD .06550 .06320 .06010 .05890 .05710 .05920 .06050 .06280 .06550 .06960 .07470 .08070	L/D -2.63910 -1.966006465001620 .49700 1.27730 1.92200 2.58990 3.12000 3.61210 3.98730 4.28310 4.46320	CBL0021000200002100023000260002600030000300002900029000290	CYN00210002100025000240002400024000240002400024000240	CY01370013200117001290012100126001290014000142001180013000118001300

.02820

.02930

.02900

.02310

.01820

.00620

.00560

.00010

-.00520

-.00970 -.01210

.00033

.00790

.00130

-.00500

-.G1120

-.01730

-.02200

-.02450

-.01170

-.00510

-.00580

-.03770

-.01030

-.01440

-.00098

.49240

.53810

.59100

.64700

.70050

.76090

.81680

.87800

.91650

.97460

1.03260

1.09391

1.15280

.04115

.11070

.12330

.13920

.15830

.17900

.20510

.23440

.25410

.32150

.36050

.40070

.44410

.48770

-.00046

4.44850

4.36520

4.24450

4.08780

3.91300

3.709+0

3.48460

3.09010

2.85110

2.70360

2.57730

2.46290

2.36360

-.00290

-.00330

-.00330

-.00360

-.00390

-.00380

-.00420

-.00700

-.00550

-.00350

-.00340

-.00170

-.00020

# LAGS TABULATED SOURCE DATA

DATE 19 AUG 76 '

(RNJ002) ( 24 NOV 75 ) ARC 135-1-12 LAGG BASELINE

PAGE

PARAMETRIC DATA

REFERENCE DATA	*		_		*			
SREF = 2690.0000 SQ.FT. LREF = 474.8000 IN. BREF = 936.6800 IN. SCALE = .0150	XMRP = YMRP = ZMRP =	1076.7000 IN. .0000 IN. 375.0000 IN.	YO		BETA ELEVON EMACH ERUDDER	.000 .290	SPD8RK = A1LRON = BDFLAP = GRIINO =	25.000 .000 .000
				COADIENT INTERVAL -	-5 CO/ 5.00			

	.0.50										
		RUN NO.	7/ 0	RN/L =	3.97 GRAI	DIENT INTERV	/AL = -5.0	0/ 5.00			,
					O! M	CL	CD .	L/D	. CBT	CYN	CY
RN/FT	ALPHA '	ELEVON	CN	CA	CLM		.06610	-2.69820	00140	00100 '	00750
3.971	3.130	04000	18150	.05620	.02500	17830	.06350	-2.03900	00140	00120	00660
3.965	-1.980	03000	13150	.05890``	.02520	12940	.08060	67730	~.00160	00120	00720
3.968	.000	03000	04110	.06060	.02570	-:04110	.06000	03040	00170	00130	00660
3.961	.970	03000	00080	.06000	.02610	00120	.05980	.64390	00180	00120	00730
3.965	1.970	-:03000	.04050	.05840	.02670	. 03850		1.34040	00190	00120	00760
3.975	3.000	04000	.08390	.05500	.02630	.08090	.06040	2.000#0	00200	00120	00760
3.968	3.950	~.03000	.12790	:05330	.02630	.12400	.06200	2.68240	00210	00120	00630
3.979	4.930	03000	.17710	04920	.02630	.17220	.06420	3.21550	00220	00110	00780
3.971	5.930	03000	.22?70	.04470	.02570	.21690	.06740		00210	00110	00720
3.974	6.930	÷.02000	. 27250	.03850	.02450	.26590	.07120	3.73410	00220	00120	00670
3.970	7.940	02000	. 32020	.03260	.02400	.31260	.07660	4.08300	00220	00110	00720
3.971	8.900	02000	.37160	.02620	.02330	.36320	.08340	4.35470	00230	00110	00640
3.968	9.910	.00000	.41720	.01930	.02310	.40760	.09080	4.49020	00230	00100	~.00750
3.967	10.880	01000	.46430	.01240	.02370	.45360	, 69990	4.54190	00230	00110	00780
3.966	11.920	03000	.51140	.00490	.02610	.49930	111040	4.52280	00250	00110	00560
3.956	12.900	01000	.56060	uo≥io	.02810	.54690	. 12310	4.44140	00250	00110	00650
3.960	13.890	01000	.61020	00930	.02880	.59460	.13750	4.32330		00110	00550
3.965	14.930	02000	.66270	01660	.02860	.64470	. 15430	4.17730	00240 00240	00110	- 00550
3.503	13.500	01000	.72173	- 02130	. შეიიიე	ამინი	, 17470	4 01950		00120	00550
3.956	16.850	08000	.78380	~.03150	.02270	.75930	.19690	3.85530	00340	00240	00170
3.950	17.830	05000	.84740	03730	.01910	.81810	.22400	3.65190	00430	00250	00120
3.958	18.850	06000	.91467	04040	.01260	.87850	.25730	3.41510	~.00370	00280	00010
3.954	19.830	02000	.98940	03350	.00530	.94220	.30400	3.09890	00110	00160	00310
3.955	20.820	01000	1.04520	03220	.00350	99840	. 34130	2.89570	00130		00350
3.953	21.820	07000	1.11200	03120	00250	1.04390	. 38440	2.71570	00243	00020	.00020
	22.790	03000	1.18:50	03060	01010	1.10110	.42940	2.56400	00339	00130	- 00020
3.955	23,840	1.0000	1.25210	03240	01290	1.15840	.47650	2.43130	00400	00170	10000.
3.950	GRADIENT	.00046	.0+397	~.00085	.00018	.04295	00030`	.67166	00009	00002	.03001
	DITALLIT										,

# ADC 175-1-10 LASS BASELINE

	ARC 135-1-12 LAGG BASELINE	(RNJ002) ( 24 NOV 75					
REFERENCE DATA	•	PA	RAMETRIC DATA				
•			OF 000				

SPEF =   LPEF =   BREF =   SCALE =	2690.0000 5 474.8000 II 936.6800 II	N. YMRP	= .0	000 IN. XO 000 IN. YO 000 IN. ZO				BETA # ELEVON # MACH = RUDDER =	.000 .000 .000 .000	SPDBRK = AILRON = BDFLAP = GRITNO =	25.000 .000 .000 .000
		RUN NO.	6/ 0	RN/L =	4.97 GRAD	HENT INTER	VAL = -5.0	0/ 5.00			
T-29%6296+9+55006086!-098+455% F76665555556665656+6454440393 R9999999999999999999999999999999999	ALPHA -3.160 -1.970 .990 .990 .990 .990 .990 .990 .990	ELEVON060000100001000 .01000	CN184401313003970 .00140 .04170 .08600 .13320 .18070 .28840 .27830 .374360 .42360 .47080 .567240 .72850 .61850 .67240 .788160 .98030 1.09860 1.15280	CA .05500 .05790 .05970 .05960 .05500 .05190 .04750 .04750 .03750 .03750 .01680 .01680 .01090 01090 01090 02770 04880 04880 04880 04880 04880 04880 04880	CLM .02490 .02510 .02520 .02570 .02590 .02590 .02540 .02440 .02350 .02190 .02190 .02190 .02190 .02190 .02190 .02190 .02500 .02720 .02730 .02600 .02600 .00660 .00660	CL181101292003970 .00040 .03970 .08300 .12920 .17590 .22260 .27170 .32080 .36590 .41430 .46030 .51110 .50300 .65460 .70890 .70890 .782340 .93710 .93710 1.03450	CD .06510 .06240 .05970 .05900 .05910 .05940 .06290 .06670 .07090 .07610 .08250 .08970 .11250 .13820 .115470 .17450 .129100 .24970 .29420 .33030 .37210 .415810	L/D -2.78240 -2.070806644060610 .67200 1.39810 2.11990 2.79430 3.33790 3.33790 4.43330 4.62050 4.462050 4.56160 4.36210 4.36210 4.06320 4.06320 3.18190 2.98950 2.779990 2.47860	CBL00130001500015000150002100021000240002400025000280	CYN00060000700007000070000600006000060000600006000060000600007000060000700006000070000600007000060000700006000070000900017000170001700010000090	CY00540005500
.,	GRADIENT	.00357	.04458	00090	.00005	. 104356	~.00031	.69281	00014	00000	.00001

# DATE 19 AUG 76

	ARC 135-1-18	LAGE BASELIN	łE			(RNJ008	2) (24 NO	OV 75 )
REFERENCE DATA		,				PARAMETRIC	DATA	•
LREF = 474.8000 IN. Y BREF = 936.6800 IN. Z SCALE = .0150	MRP = 1075.7000 IN. MRP = .9000 IN. MRP = 375.0000 IN.	Y0 Z0			BETA = ELEVON = MACH = RUDDER =	.000 .000 .290 .000	SPDBRK = AILRON = BDFLAP = GRITNO =	25.000 .000 .000 .000
RN/FT ALPHA ELEVO 5.965 -3.170 -0100 5.958 -1.990 -0100 5.940 .000 .0100 5.941 1.020 .0100 5.941 1.020 .0200 5.919 2.970 .0200 5.917 3.980 .0200 5.917 3.980 .0200 5.917 5.990 .0500 5.917 5.990 .0500 5.917 5.990 .0500 5.908 7.980 .0100 5.839 8.980 -0400 5.839 8.980 -0400 5.839 8.980 -0400 5.831 10.970 -0200 5.831 10.970 -0200 5.837 12.990 -0500 5.908 13.970 -0600 5.908 13.970 -0600 5.905 17.010 -0550 5.908 13.970 -0500 5.908 13.970 -0500 5.908 13.970 -0500 5.908 13.970 -0500 5.905 17.010 -0550 5.905 17.010 -0550 5.905 17.010 -0550 5.905 17.010 -0550 5.905 17.010 -0550 5.905 17.010 -0550 5.905 17.010 -0550 5.905 17.010 -0550 5.905 18.990 -0100 5.905 18.990 -0100 5.885 18.990 -0100 5.885 18.990 -0100 5.886 22.010 -0600 5.870 24.020 -0300 GRADIENT .0038	0019360 .0563 0013220 .0570 0004150 .0565 00 .00150 .0565 00 .04510 .0565 00 .08720 .0540 00 .13230 .0518 00 .22730 .0446 00 .22730 .0496 00 .32730 .0296 00 .32730 .0296 00 .32730 .0296 00 .32730 .0156 00 .32730 .0156 00 .57350 .0156 00 .573500045 00 .573500236	CLM		CD .06640 .05690 .05690 .05830 .05850 .06950 .07450 .07450 .07450 .09040 .10130 .13820 .15460 .17380 .19530 .21970 .24760 .28679 .32590 .449800002-7	7.5.00 L/D -2.71610 -2.71610 -00260 -73960 -73960 -144150 -25990 -25990 -25990 -4.62590 -4.62590 -4.62590 -4.62590 -4.62590 -4.62590 -4.6250	CBL0013000140001500015000170001800017000200002300024000240002400024000240002400024000250002500025000250000500005000050	CYN000500005000050000600005000050000500005000040000500004000050000400005000070	CY00430005200044000350003700039000390003900015000012

		ARC 135-1-12 LAGS BASELINE			
REFERENCE DA	ATA		PARAMETR	IC DATA	
SREF = 2690.0000 SQ.FT. LREF = 474.8000 IN. BREF = 936.6800 IN. SCALE = .0150	XMRP = YMRP = ZMRP =	1076.7000 IN. XO .0000 IN. YO 375.0000 IN. ZO	BETA = .000 ELEVON = .000 MACH = .290 RUDDER = .000	AllRON = BDFLAP =	25.000 .000 .000

BREF = SCALE =	936.6800 IN. .0150	ZMRP	= 375.0	1000 IN. ZO				RUDDER =	.000	GRITNO =	.000
		RUN NO.	4/ 0			DIENT INTERV	'AL = -5.0 CD	00/ 5.00 L/D	, CBL	CYN	CY
RN/FT	ALPHA	ELEVON	CN	CA	CLM .02470	18260	.08560	-2.78380	00090	00050.	00300
6:973	-3.180	.02000	18600 13150	.05540 .05780	.02380	12940	.06240 (	-2.07360	00120`	00020	00400
6.988	-2.010	.00000	04370	.05990	.02500	04370	.05990	72990	00100	00030	00280
6.969		.00000 05000	.00030	.05980	.02540	00070	.05980	01150	00110	00030	00300
6.969	.980 0.990	01000	.04440	.05840	.02550	.04230	.05990	.70610	00120	00020	00360
6.957 6.952	3.020	.01000	.08810	.05610	.02530	.08510	.06060	1.40240	00130	00030	00270 00350
6.967	3.990	09000	.13420	.05330	.02540	.13020	.06250	2.08340	00130	00010	00330
6.964	5.010	07000	. 18310	.04920	.02480	.17810	.06500	2.73910	00120	00020 00010	00380
6.962	5.990	08000	.23010	.04330	.02440	.22430	.06710	3.34220	00140	00010	00340
6.968	6.990	03000	.27990	.03790	.02380	.27320	.07170	3.81060	00140 00150	.00000	00370
6.956	8.010	05000	.32700	.03160	.02290	:31940	.07690	4.15490	00150	00020	00230
6.946	9.010	02000	.38060	.02500	.02190	.37200	.08430	4.41240 4.55790	00130	00010	00240
6.939	10.010	01000	.42810	.01770	.02210	.41850	.09180 .09970	4.64970	00130	.00000	00340
6.946	11.020	03000	.47430	.00920	.05330	.46380	.11020	4.62540	00150	,00000	00310
6.948	12.040	07000	.52440	.00150	.03520	.51260 . .56240	12430	4.52380	06180	.00000	00350
6.943	13.040	06000	.57590	00580	.02660 .02710	.61140	.13850	4.41560	00160	00010	00230
6.917	14.040	05000	.62670	01400	.02580	.66420	.15590	4.26100	00210	00030	00170
6.909	15.040	06000	.68190	G2190 03050	06440.	.71+60	.17460	4.10880	00190	00030	00180
6.920	16.060	02000 05000	.73490 .79710	03940	.02230	.77350	19640	3.93830	00180	00070	00100
6.903	17.080 18.080	~.05000 ~.05000	.85480	04750	.01900	.82730	.22010	3.75900	00150	00090	00090
6.908 6.886	19.080	05000	.91630	05500	.01500	.88400	.24760	3.57070	00090	00130	00070 .00510
6.876	20.100	01000	.98350	05540	.00910	.94270	.28600	3.29640	00230	00420	.00070
6.882	21.130	10000	1.038+0	05500	.0978 <b>0</b>	.99940	.32300	3.05950	00160	00190 00010	00070
6.875	22.090	05000	1.08340	05370	.00680	1.02410	.35770	2.86320	.00090	00010	00040
6.904	23.140	.01000	1.15220	05070	.00050	1.07950	.40620	2.65740	.00100 .00160	00060	.00030
6.897	24.150	01000	1.20830	05200	00420	1.12380	.44690	2.51470 68374	00004	.00000	.00002
<del>-</del> -	GRADIENT	00929	.04433	-1.00024	.00018	04330	000៉ូ45	٠,٠٥٥,٠		, 00000	
						•					

DATE 19 AUG 76 (RNJ002) ( 24 NOV 75 ) .

ARC 135-1-12 LAGG BASELINE .	, (RN	17005) ( 54 110.	V 75 ).
REFERENCE DATA	PARAMET	RIC DATA	
SCALE = .UTDU	BETA = .00 ELEVON = .00 MACH = .29 RUDDER = .00	00 AILRON = 00 BDFLAP =	25.000 .000 .000
RUN NO. 1/0 RN/L = 8.42 GRADIENT INTERVAL = -5.00	0/ 5.00	>	•
RN/FT ALPHA ELEYON CN CA CLM CL CD  8.426 -3.1800500019000 .05680 .0241018650 .06720  8.434 -2.0300100013670 .05960 .0242013450 .06440  8.4070100500004670 .06200 .0241004670 .06200  8.410 1.00002000 .00090 .06160 .0242000030 .06160  8.422 2.00003000 .04340 .06030 .02420 .04130 .06180  8.407 3.01003000 .09120 .05770 .02420 .08610 .06250  8.407 4.00007000 .13780 .05990 .02450 .13370 .06440  8.404 5.04005000 .18690 .05970 .02430 .18170 .06690  8.388 6.04005000 .23400 .04590 .02360 .22790 .07030  8.392 7.04004000 .28370 .03990 .02310 .27670 .07430  8.399 8.07003000 .33560 .03240 .02200 .32780 .07020  8.394 9.080 .02000 .38420 .02480 .02150 .37550 .08520  8.394 9.080 .02000 .38420 .02480 .02150 .37550 .08520  8.374 11.110 .00000 .48540 .01740 .02180 .42560 .09330  8.374 11.110 .00000 .48880 .00950 .02350 .47390 .10280  8.375 12.10034000 .55710 .00540 .02540 .52260 .11380  8.407 13.130 .011000 .5862000640 .02540 .52260 .11380  8.407 13.130 .011000 .5862000640 .02540 .52260 .11380  8.407 13.130 .011000 .5862000640 .02510 .57230 .12700  8.408 15.140 .02000 .6913004030 .02420 .67320 .15830  8.373 17.16002000 .6930001450 .02620 .52350 .17360  8.373 17.16002000 .693004030 .02420 .67320 .15830  8.373 17.16002000 .693004030 .02420 .67320 .15830  8.374 16.160 .02000 .693004030 .02420 .67320 .25270  8.385 21.20002000 .693004030 .02420 .67320 .25270  8.387 20.190 .04000 .9862005660 .01230 .99740 .25270  8.388 21.20000000 1.05470005940 .00460 1.09480 .25290  8.338 21.20000000 1.0547000590 .00460 1.09480 .25290  8.338 21.20000000 1.0547000590 .00460 1.09470 .25270  8.338 21.20000000 1.0547000590 .00790 1.14480 .45860  8.344 22.220066000 1.1664006070 .00460 1.09470 .45860  8.338 21.20000000 1.0547000590 .00790 1.14480 .45860  8.344 22.220066000 1.1664006576000110 1.09470 .40810  8.338 21.20000226 .0454500522 .00000	L/D -2.77480 -000 -2.08790000 -2.08790000753100000043000066880000 1.40990000 2.07590000 3.74160000 3.72130000 4.40700000 4.56360000 4.56360000 4.56360000 4.56510000 4.56510000 4.56510000 4.56510000 3.73420000 4.39620000 3.73420000 3.73420000 3.73420000 3.73420000 3.68090000 2.68090000 2.68090000 2.68153000	150	CY

## (RNJ003) ( 24 NOV 75 ) ARC 135-1-12 LAGS BASELINE PARAMETRIC DATA REFERENCE DATA

	REFERE	NCE UATA							PARAMETRIC	UAIN	
SREF = LREF = BREF = SCALE =	2690.0000 9 474.8000 1 936.6800 1		<b>=</b> .t	7000 IN. XO 0000 IN. YO 0000 IN. ZO	•	•		BETA # ELEVON # MACH = RUDDER #	4.000 .000 .290 .000	SPDBRK = AILPON = BDFLAP = GRITNO =	25.000 .000 .000 .000
		· RUN NO:	11/ 0	RN/L =	5.97 GRA	DIENT INTER	/AL = -5.0	0/ 5.00			
RY 99564 199764 199764 199967 199967 19999 19999 19999 19999 19999 19999 19999 19999 19999 19999 19999 19999 19999	ALPHA -3.030 -2.050 -980 -980 -980 -980 -970 -5.980 -7.980 -7.980 -7.980 -7.990 -7.990 -7.030	ELEVON05000050000400002000 .00000 .00000050000500003000030000300003000030000300003000030000300003000030000300003000030000300003000030000300003000	CN 765001291400412900412900412900412900412500412	CA .05700 .059910 .059910 .05580 .05580 .05580 .04910 .03580 .03580 .02580 .001830 .0015320 .0015320 .0015320 .0015320 .0015320 .0015320 .0015320 .0015320 .0015320 .0015320 .0015320 .0015320 .0015320 .0015320 .0015320 .0015320 .0015320 .0015320 .0015320	CLM .02150 .02160 .02190 .02230 .02230 .02230 .02970 .01930 .01990 .01990 .01990 .01970 .01970 .01970 .01970 .01970 .01970 .01970 .01970 .01970 .01970 .01970 .01970 .01970 .000530 .000530 .000560 .0	CL 17330 12780 04140 .00190 .09499 .08710 .13160 .18250 .22970 .27850 .37370 .42080 .47070 .51940 .5650 .67100 .72940 .78260 .83330 .89590 .99530 1.08390 1.08390	CD .06400 .05970 .05970 .05920 .05940 .06040 .06510 .06840 .07300 .07850 .08500 .09240 .10150 .11230 .12360 .12360 .17660 .19840 .29020 .33300 .37490 .46060	L/O -2.70900 -2.07680 -3.180 -3.180 -7.180 -1.1840 2.11840 2.11840 2.11840 2.11840 2.11840 4.553750 4.553750 4.553750 4.555760 4.	CBL0022000280004100047000580005800072000780008800099001130012400133001310013700126001340013400134001360013700126001370012600137001260013700126001370012600137001260013700126001370012600137001260	CYN .00540 .00530 .00530 .00520 .00530 .00550 .00570 .00570 .00560 .00520 .00620 .0000 .0000 .0000 .0000 .0000 .00	CY073900748007560076500755007650076100761007710077300773007730075200752007520075200752007520075200752007520075200753007520075300752007530075300753007530075300753007530075300753007530075300753007530075300753007530075500755007550075500755007550075500755007550075500755007550075500755007550075500755007550
•	•						•				•

# ADC 175-1-12 LASS BASELINE

ARC 135-1-12 LAGE BASELINE	(E00CNR)	( 24 NOV 75 )

	REFERENC	E DATA			, ,				PARAMETRIC	DATA	
SREF = 3 LREF. = BREF = SCALE =	2690.0000 SQ. 474.8000 IN. 936.6800 IN. .0150	YMRP	= .00	000 IN. XO 000 IN. YO 000 IN. ZO				BETA = ELEVON = MACH = RUDDER =	4.000 .000 .290 .000	SPDBRK = AILRON = BDFLAP = GRITNO =	25.000 .000 .000 .000
		RUN NO.	10/ 0	RN/L =	6.89 GRA	DIENT INTER	VAL = -5.0	00/ 5.00			
RN/FT 6.9171 6.998 6.898 6.8979 6.8879 6.8778 6.8778 6.8778 6.8879 6.8979 6.9979 6.9079 6.9079 6.9079 6.9079 6.9079 6.907	ALPHA -3.010 -2.030010960 1.990 2.960 3.990 5.000 5.980 7.010 8.030 9.020 10.010 11.030 12.050 13.050 14.060 16.080 17.070 19.110 20.110 21.130 22.210 23.150 24.220 GRADIENT	ELEYON .05000020000200002000050000	CN171201284003710 .00460 .05010 .09290 .14010 .23770 .29010 .33920 .38640 .48670 .53430 .50520 .69570 .74810 .69570 .74810 .86790 .93600 .99510 1.04860 1.11210 1.17:10 1.23940 .04482	CA .05560 .05740 .05990 .05930 .05810 .05820 .05820 .04940 .04920 .03870 .02510 .01740 .00860 .01740 .00860 .01740 .00860 .017570 .02380 .025280 .04900 .05490 .05590 .05620 .05620 .05620 .05940 .00071	CLM .01970 .02000 .02030 .02050 .02050 .02050 .02050 .01930 .01830 .01660 .01710 .01780 .01830 .01830 .01950 .01950 .01950 .01950 .01950 .01830 .01830 .01830 .01830 .01830 .01830 .01830 .01830 .01830 .01830 .01830 .01830	CL168001262003710 .00360 .04810 .08990 .13600 .18550 .23180 .28330 .33140 .52230 .57150 .62560 .72800 .72800 .72800 .75030 .89860 .95440 .99830 1.04930 1.09890 1.15260 .04379	CD .05450 .06200 .05930 .05930 .05930 .06090 .06680 .07380 .07380 .09250 .10150 .11270 .12260 .25320 .28770 .37140 .22570 .37140 .45870 .00010	1.00600 -2.03780 -2.03780 -2.03780 -2.03780 -2.03780 -2.06070 -2.0	CBL00240,00280004100045000450005700063000630007500090001290012900129001290012300123001230012300123001230012300123001230	CYN .00550 .00550 .00550 .00550 .00540 .00540 .00540 .00570 .00600 .00600 .00600 .00590 .00550 .00550 .00550 .00570 .00500 .00590 .00500 .00590 .00590 .00590 .00590 .00590 .00590 .00590 .00590 .00590 .00590 .00590 .00590	CY073600740007570075500758007580075800758007580075800758007580075800758007580075800758007580075400753907540075300754007530075400753007540075300754007530075400753007540075300754007530075400753007540068600689006890069400694007000
		• •					'	•	-		

## (RNJ003) ( 24 NOV 75 ) ARC 135-1-12 LA66 BASELINE REFERENCE DATA PARAMETRIC DATA SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO LREF = 474.8000 IN. YMRP = .0000 IN. YO BREF = 936.6800 IN. ZMRP = 375.0000 IN. ZO 4.000 SPDBRK = 25.000 BETA = .000 AILRON = .000 ELEVON = .290 BCFLAP = .000 MACH = .000 GRITNO = .000 SCALE = .0150 RUDDER =

		RUN NO	. 9/0	RN/L =	8.40 GRA	DIENT INTER	VAL = -5.0	00/ 5.00	•		
RN/FT	ALPHA	ELEVON	CN	CA ·	CLM	CL	CD	,L/D	CBL	CYN	CY_;
8.448	~2.980	04000	16670	.05550	.01710	16360	.06410	-2.55170	00330	.00570	07210
8.438	-2.040	03000	12480	.0577 <b>0</b>	.01740	12270	.06210	-1.97620	00390	00550	07130
8.399	010	02000	03400	.06000	.01720	03400	.06000	56650	00510	.00550	07220
8.371	.980	05000	.00900	.05970	.01730	.00800	05980	.13310	00570	.00540	07250
8.385	1.990	02000	.05530	.05940	.01730	.05320	.06030	.88260	00620	.00550	-:07250
8.370	2.930	02000	.10030	. 05640	.01730	.09730	.06150	1.58040	00280	.00540	07220
8.372	4.030	03000	.14980	.05320	.01710	. 14570	.06360	2.29170	00750	.00540	07260
8.357	5.020	08000	.19840	.04930	.01650	. 19330	.06540	2.90960	00800	.00550	07310
8.364	6.050	04000	.24730	. 04430	.01550	.24120	.07010	3.44340	00860	.00570	07380
8.361	7.060	~.02000	.29740	.03820	.01540	.29040	.07450	3.89990	00900	.00590	-,07380
8.346	8.070	06000	.35200	.03140	.01540	. 34410	.08050	4.27530	00970	.00510	~.07460
8.335	9.070	11000	.39480	.02480	.01530	.38600	.08680	4.44910	01080	.00610	~.07440
8.337	10.070	09000	.44390	.01730	.01570	.43400	.09470	4.58420	~.01200	.00610	07340
8.333	11.090	06000	.50020	.00840	.01560	.48930	.10450	4.68530	01330	.00500	07280
8.333	12.110	05000	.54940	.00040	.01620	.53710 ,	.11570	4.64320	01370	.00597	07240
8.310	13.140	12000	.60000	00810	.01840	.58510	.12850	4.56150	01290	.00550	07170
8.323	14.140	10000	.65160	01650	.01800	.63590 -	.14320	4.44180	01320	.00570	07190
8.327	15.160	02000	.70490	02460	.01780	.68680	.16060	4.27750	01320	.00540	07120
8.312	16.170	07000	.75340	03370	.01660	74270	18010	4.12250	01340	.00520	07230
8.303	17.170	09000	.81940	04200	.01410	.79530	.20170	3.94260	01330	.00430	06920
8.287	18.190	13000	. 87760	04990	.01120	.84940	.22650	3.74930	01300	.00370	06590
8.280	19.270	08000	.94590	05720	.00610	.91180	.25220	3.53140	01380	.00260	06510
8.275	20.300	11000	1.00980	06060	.00210	.96720	.29330	3.29800	01440	.02000	05980
8.279	21.270	07600	1.06823	06230	00330	1.01810	.32940	3.09020	01590	.00050	05070
8.250	22.290	12000	1 12470	05960	00560	1.06330	.37140	2.86260	01380	.00150	06250
8.288	23.270	04000	1.18590	05830	00950	1.11640	.41490	2.68100	00990	.00270	06670
8.266	24.300	06000	1.25160	05760	01590	1.16450	.46240	2.51810	00750	.00330	06790 00012
• •	GRADIENT	.03151	.04497	00025	00000	. 04334	00013	.69735	00059	00003	00016

DATE 19 AUG 76 LAGG TABULATED SOURCE DATA PAGE 13

# ARC 135~1-12 LASS BASELINE REFERENCE DATA SREF = 2590.0000 SQ.FT. XMRP = 1076.7000 IN. XO LREF = 474.8000 IN. YMRP = .0000 IN. YO BREF = 936.6800 IN. ZMRP = 375.0000 IN. ZO (RNJ004) (24 NOV 75 ) PARAMETRIC DATA ALPHA = 6.000 SPDBRK = 25.000 ELEVON = .000 AILRON = .000 MACH = .290 BDFLAP = .000

SREF = LREF = BREF = SCALE =	2690.0000 SQ.FT 474.8000 IN. 936.6800 IN. .0150	T. XMRP YMRP ZMRP	= .C1	000 IN. XO 000 IN. YO 000 IN. ZO	,			ALPHA = ELEVON = MACH = RUDDER =	6.000 .000 .290 .000	AILRON = BOFLAP = GRITNO =	.000
		RUN NO.	15/ 0	RN/L =	5.93 GRA	DIENT INTERV	/AL = -5.0	10/ 5.00			
RN/FT 5.8874 5.894 5.897 5.909 5.908 5.908 5.908 5.908 5.908 5.908 5.928 5.938	.170 1.170 2.150 3.130 4.100 5.060 6.030 7.030	ELEVON : 00000 . 000000	CN .28500 .27960 .27960 .27560 .274970 .26170 .26170 .26160 .26600 .2660	CA .03700 .03790 .03880 .03920 .03920 .04060 .04060 .04060 .04060 .04010 .03860 .03870 .03870	CLM .01500 .01620 .01780 .01970 .02210 .02400 .02660 .02670 .02640 .02360 .02360 .02190 .02000 .01630 .01630 .01630	CL .27940 .27390 .27310 .27080 .26290 .25720 .25580 .25590 .25590 .25590 .25590 .25690 .25720 .25300 .25300 .25300 .25300 .25300 .26300 .20166	CD .06740 .06770 .06850 .05870 .06840 .06820 .06830 .06830 .06830 .06830 .06830 .06720 .06720 .06720 .06720 .06720 .06530 -00004	L/O 4.14590 4.04450 3.98740 3.94090 3.96220 3.77360 3.73890 3.73740 3.72330 3.76530 3.76530 3.83730 3.88410 4.02600 02193	CBL .01380 .01170 .00970 .00620 .00620 .00460 .00120 .00120 00270 00270 00970 00970 01170 01380 00155	CYN01340011200090000580004000026000130 .00140 .00300 .00460 .00820 .01250 .01500 .00151	CY .14270 .12220 .10330 .08510 .06650 .04870 .03170 .01480 00330 05260 07300 07300 09020 11020 12940 14670 01791
	ONADIEM	RUN NO.		RN/L =	6.96 GRA	DIENT INTER	VAL = ~5.0	00/ 5.00			
RN/FT 6.884 6.997 6.895 6.907 6.904 6.915 6.915 6.931 6.931 6.935 6.946	-7.660 -6.710 -5.740 -1.710 -3.730 -2.720 -1.800 -1.800 -1.810 -1.810 -1.120 -1	ELEVON .00000	CN .28900 .28140 .28000 .27200 .27370 .26760 .26890 .265170 .26470 .26470 .26470 .26470 .26610 .266760 .26760 -00145	CA .03510 .03650 .03760 .03830 .03830 .03920 .03970 .03960 .03960 .03960 .03960 .03960 .03950 .03850 .03730	CLM .01320 .01510 .01700 .01890 .02140 .02500 .02500 .02500 .02580 .02580 .02140 .01730 .01730 .01560 .01350	CL .28360 .27590 .27430 .27230 .26180 .26180 .25820 .25890 .25720 .25880 .25740 .25900 .26080 .26080	CD .06610 .06670 .06750 .06760 .06780 .06780 .06780 .06780 .06780 .06780 .06780 .06780 .06550 .06570 .0644000003	L/D 4.29060 4.13850 4.06110 4.00200 3.96370 3.86250 3.80050 3.87960 3.81300 3.78420 3.78410 3.81890 3.82530 3.87750 3.96610 4.06860 01922	CBL .01380 .01140 .00970 .00620 .00470 .00330 .00190 .00040 00270 00430 00760 00760 00950 01140 01360	.00130 .00260 .00470 .00630 .00830 .01020 .01230	CY .14100 .12020 .10190 .08370 .06590 .04820 .03140 .01400 02180 02180 05670 07480 09250 11110 12930 12930 14890 01797

## (RNJ004) ( 24 NOV 75 ) ARC 135-1-12 LAGG BASELINE

	REFERENCE	DATA			•		,		PARAMETRIC	DATA	
SREF = 2 LREF = BREF = SCALE =	2690.0000 SQ.F 474.8000 IN. 936.6800 IN. .0150	TT. XMRP YMRP ZMRP	= .0	000 IN. XO 000 IN. YO 000 IN. ZO				ALPHA = ELEVON = MACH = RUDDER =	6.000 .000 .290 .000	SPDBRK = AILRON = BDFLAP = GRITNO =	25.000 .000 .000 .000
		RUN NO.	16/ 0	RN/L =	8.52 GRAD	DIENT INTERV	/AL = -5.00	o/ 5.00			
RN/FT57789.445098.44568.4458.4458.4458.4458.44513045.44513045.445130458.448104588.448104688.44881304688.44881304688.44881304688.4488104688888888888888888888888888888888	BETA -7.680 -6.700 -5.710 -4.730 -3.740 -2.780 -1.820820800 .170 1.160 2.140 3.130 4.110 5.090 5.070 7.050 8.030 GRADIENT	ELEVON .00000	CN .29150 .28840 .28570 .26530 .27650 .26630 .27670 .26640 .27070 .26640 .27070 .27270 .27270 .2755000125	CA .03410 .03540 .03660 .03790 .03780 .03850 .03910 .03920 .03920 .03920 .03920 .03920 .03920 .03930 .03740 .03740 .03740	CLM .01280 .01470 .01680 .01910 .02180 .02580 .02630 .02660 .02630 .02480 .02320 .02110 .01910 .01750 .01350	CL .28620 .28280 .28000 .27550 .26950 .26950 .26050 .26050 .26180 .26420 .26570 .26570 .26710 .2701000125	CD .06560 .06740 .06750 .06750 .06770 .06770 .06770 .06760 .06760 .06760 .06760 .06760 .06570	L/0 4.36400 4.25040 4.15310 4.04090 3.99340 3.99280 3.91100 3.84220 3.84790 3.84580 3.85110 3.91410 3.91410 3.9140 4.02070 4.02070 4.19200 01759	CBL .01340 .01140 .00960 .00770 .00600 .00450 .00170 .00119 00140 00290 00470 00960 01160 01360	CYN0129001080009200074000580004300029000150 .00000 .00130 .00270 .00430 .00580 .00980 .01190 .01430	CY .13820 .11890 .10260 .08310 .05530 .04790 .03070 .012900053002560075200568011090123301483001785

DATE 19 AUG 76 LAGG TABULATED SOURCE DATA (RNJ005) ( 24 NOV 75 )

ARC 135-1-12 LAGG BASELINE

			ARC I	23-1-15 M	400 DYJEETHE						
	REFERENCE	DATA					,		PARAMETRIC	DATA	
SREF = LREF = BREF = SCALE =	2690.0000 SQ.F 474.8000 IN. 936.6800 IN.	T. XMRP	<b>=</b> .00	000 IN. XO 000 IN. YO 100 IN. ZO	•			ALPHA = ELEVON = MACH = RUDDER =	12.000 .000 .290 .000	SPDBRK = AILRON = BDFLAP = GRITNO =	25.000 .000 .000 .000
		FUN NO.	20/ 0	RN/L =	5.96 GRA	DIENT INTER	/AL = ~5.0	0/ 5.00			
RN.8899.235.8999.59.55.999.59.55.999.59.55.999.59.99.9	BETA -7:650 -6:670 -5:670 -4:700 -3:720 -2:750 -1:770 -:820 -1:130 2:120 3:110 4:090 5:070 6:050 7:040 8:010 GRADIENT	ELEVON	CN .58480 .58070 .57900 .57900 .56390 .556300 .556300 .55990 .55860 .55980 .55980 .56370 .56250 .56370 .56250 .56370 .56250 .56780 ~.00107	CA008900082000820009400094500043000410004100050000610006100063000630	CLM .01110 .01420 .01730 .01980 .02550 .02550 .02770 .02860 .02890 .02740 .02510 .02280 .01780 .01400 .01200	CL .57320 .56900 .56740 .55670 .55090 .55180 .54780 .54660 .54770 .55080 .55080 .55080	CD .11640 .11630 .11580 .11580 .11530 .11530 .11570 .11540 .11570 .11540 .11450 .11450 .11450 .11430	L/D 4.92550 4.89060 4.89920 4.85960 4.85960 4.75040 4.75640 4.73480 4.73480 4.73480 4.73480 4.73480 4.73480 4.7350 4.81810 4.81970 4.85390 4.86970 00631	CBL .02250 .01970 .01630 .01350 .01050 .00760 .00510 .002400028000560011200141001970022600278	CYN0142001220007400057000410002900014000130 .00270 .00410 .00630 .00830 .01280 .01440	CY .13820 .11920 .09930 .08060 .06380 .04590 .03030 .01310 00500 02220 03930 05650 07380 09290 11140 13110 14900 01760
		RUN NO.	19/ 01	RN/L =	7.00 GRA	DIENT INTER	VAL = -5.0	0/ 5.00			
RN/FT 6.950 6.962 6.952 6.951 6.951 6.950 6.954 6.954 6.954 6.950 7.002	-2.780 -1.790 800 .180 1.160 2.120 3.120 4.100 5.070 6.060 7.040	ELEVON .06000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000	CN .58730 .58420 .57870 .57670 .57430 .56980 .56180 .56610 .56480 .56480 .56950 .57100 .56950 .57650 -00108	CA0105000970009400090000580005800058000520005900059000590005900059000590008900089000890	CLM .00970 .01300 .01640 .01900 .02170 .02480 .02710 .02830 .02850 .02950 .02520 .02520 .02520 .02520 .02520 .02520 .02520	CL .57580 .56720 .56520 .56520 .55790 .55790 .55410 .55400 .55180 .55270 .55630 .55790 .56390 .56500	CD .11580 .11600 .11510 .11510 .11530 .11530 .11560 .11590 .11650 .11650 .11550 .11510 .11500 .11500	L/D 4.97070 4.93640 4.93710 4.912700 4.877380 4.775670 4.775660 4.775660 4.78650 4.78650 4.85210 4.85210 4.85210 4.91450 01096	CBL .02260 .01930 .01620 .01340 .01070 .00780 .00520 .00250 00280 00840 01110 01390 01680 01980 01980	CYN0141001150009000075000550003800027000120 .00000 .00150 .00290 .00430 .00560 .01500 .01480 .00149	CY .13790 .11800 .09860 .08610 .04670 .02960 .01130 02220 03930 05580 07370 09230 11180 13030 14840 01750

טאוג וא אטט וט								_	
			ARC 135-1-12 LAGG BASELINE			(RNJ00	5) (24 N	10V 75 )	
REFERENCE DAT	A					PARAMETRIC	DATA		
SREF = 2690.0000 SQ.FT.	XMRP	=	1076.7000 IN. XO	ALPHA	=	12.000	SPDBRK =	25.000 000.	

RN/FT BETA ELEVON CN CA CLM CL CD L/D CBL CYN CY 8.386 -7.700 .00000 .5944001150 .00870 .58280 .11710 4.97570 .0225001350 .13790 8.387 -6.700 .00000 .5945001160 .01230 .58300 .11710 4.97590 .0195001110 .11800 8.387 -5.720 .00000 .5871001090 .01560 .57560 .11620 4.95290 .0164000890 .09910 8.387 -4.720 .00000 .5810000970 .01880 .56930 .11600 4.90550 .0137000700 .08100 8.387 -4.720 .00000 .5831000970 .01880 .56930 .11600 4.90550 .0137000700 .08100 8.389 -2.750 .00000 .5831000930 .02170 .57130 .11690 4.88630 .0108000400 .04680 8.399 -2.760 .00000 .5763000740 .02470 .57130 .11690 4.88630 .0108000400 .04680 8.424 -1.800 .00000 .5733000700 .02660 .56130 .11700 4.79600 .0054000260 .01330 8.416820 .00000 .5713000670 .02800 .55930 .11690 4.78500 .0028000120 .01330 8.414 .170 .00000 .5713000670 .02800 .55930 .11690 4.78500 .0028000120 .01330 8.410 1.170 .00000 .5714000610 .02850 .55930 .11750 4.7862000270 .0017002230 8.424 -1.30 .00000 .5714000610 .02850 .55920 .11750 4.7862000270 .0017002230 8.410 1.170 .00000 .571000630 .02860 .55930 .11670 4.79550 .00670 .0017002230 8.4173 4.100 .00000 .5750000800 .02230 .56100 .11750 4.7955000810 .00460 .03660 8.473 4.100 .00000 .5764000840 .01930 .56460 .11670 4.9955000810 .00460 .00560 8.494 6.070 .00000 .5764000840 .01930 .56460 .11670 4.9955000810 .00460 .00560 8.494 6.070 .00000 .5764000840 .01930 .56460 .11670 4.98847001670 .0107011100 8.550 7.050 .00000 .5764000840 .01930 .55400 .11670 4.9955000810 .00460 .00560 8.494 6.070 .00000 .5764000840 .01930 .55400 .11670 4.99620011960 .0107011100 8.550 7.050 .00000 .5764000840 .01930 .55400 .11670 4.99620011670 .0107011100 8.550 7.050 .00000 .5764000840 .01930 .55400 .11670 4.9962001960 .0130012990 8.550 7.050 .00000 .5840000970 .01300 .57240 .11670 4.9962001960 .0130012990 8.550 8.030 .00000 .5830000970 .010300 .57240 .11670 4.9962001960 .010277 .0014901761	REF = SCALE =	474.8000 IN. 936.6800 IN. .0150	YMRP ZMRP	= .0 = 375.0	000 IN. YO				MACH = RUDDER =	.290	BDFLAP = GRITNO =	.000
01/4D (71) 100000 100000 100000 100000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 100	8.386 8.377 8.397 8.3397 8.3397 8.411 8.411 8.420 8.420 8.477 8.480	-7.700 -6.700 -5.720 -4.720 -2.750 -2.760 -1.800 820 .170 1.170 2.130 3.120 4.100 5.080 6.070 7.060	ELEVON .00000	CN .59440 .59450 .58710 .58310 .57630 .57130 .57140 .57310 .57500 .57500 .57500 .57500 .57500 .57640 .57940 .58400	CA011500116001090009700093000740006700065000650006000084000810008100081000810	CLM .00870 .01230 .01560 .01880 .02170 .02470 .02660 .02800 .02850 .02720 .02500 .02300 .01930	CL .58280 .57560 .57560 .57130 .56430 .56130 .55930 .55920 .56100 .55970 .56460 .56470 .57240 .57240	CD .11710 .11710 .11620 .11690 .11730 .11730 .11750 .11750 .11750 .11670 .11640 .11630 .11620 .11670	L/D 4.97570 4.97690 4.95290 4.90650 4.88630 4.81130 4.79500 4.78500 4.76720 4.77320 4.77320 4.79550 4.85420 4.88470 4.90620 4.93500	.02250 .01950 .01840 .01370 .01080 .00810 .00540 .00260 00540 00540 01090 01390 01670 01960	01380 01110 00880 00700 00550 00400 00120 .00010 .00170 .00300 .00460 .00650 .00650	.13790 .11800 .09910 .08100 .06380 .04680 .03090 .01330 02330 02230 02230 025660 07450 09900 11100 12990

			ANC	133-1-16 6	AGG GAGELIAE						
	REFERENCE	E DATA			_				PARAMETRIC	DATA	
SREF = LREF = BREF = SCALE =	2690.0000 SQ.F 474.8000 IN. 936.6800 IN.	TT. XMRP	= .00	000 IN. XO 000 IN. YO 000 IN. ZO				ALPHA = ELEVON = MACH = RUDDER =	18.000 .000 .290 .000	SPDBRK = AILRON = BDFLAP = GRITNO =	25.000 .000 .000 .000
		RUN NO.	25/ 0	RN/L =	5.99 GRAD	DIENT INTER	VAL = -5.0	0/ 5.00			
RN/FT 5.918 5.934 5.927 5.944 5.947 5.953 5.953 5.973 5.963 5.973 5.968 5.968 5.973	BETA -7:640 -6:650 -5:680 -4:700 -3:730 -2:750 -1:750 -1:750 -1:130 2:130 3:090 4:090 5:070 6:030 8:000 GRADIENT	ELEVON .00000	CN .92880 .92310 .91730 .91170 .91440 .90870 .90890 .90890 .91890 .91440 .91470 .92430 .91630 .91630 .90006	CA05270053300533005480054800539005390053900519005180051400517004980049870048890	GLM .00280 .00610 .01050 .01330 .01470 .01570 .01740 .01710 .01670 .01670 .01290 .00680 .00310 00139	CL .89730 .89200 .88660 .88180 .88410 .88320 .87890 .87890 .87990 .87990 .87870 .88090 .88320 .88320 .88320 .89220 .89430	CD .24540 .24330 .24120 .23940 .23940 .23930 .23930 .24140 .24260 .24560 .25560	1/D 3.65620 3.65660 3.67620 3.70400 3.69370 3.69320 3.69320 3.69220 3.66060 3.65610 3.64890 3.64890 3.64890 3.61750 3.61750 3.61360	CBL .02510 .02130 .01750 .01470 .01150 .00880 .00610 .00330 .00060 00190 00470 01750 01470 01790 02170 02510 00289	CYN010900088000720006700036000270001700005000010 .00130 .00480 .00540 .00540 .00095	CY .13350 .11570 .09560 .08030 .06360 .04670 .03040 .01370 01760 03270 04930 06540 10240 12130 13880 01667
	VINDIEIII	RUN NO.	23/ 0	RN/L =	6.92 GRA	DIENT INTER	VAL = -5.0	0/ 5.00			
R.891 6.889 6.889 6.891 6.901 6.91 6.91 6.91 6.91 6.91 6.91 6.91 6.9	-1.780 790 .170 1.160 2.130 3.120 4.090 5.070 6.030 7.040	ELEVON .00000 .00000 .00000 .00000 .00000 .00000	CN	CA056400565005770056300568005690056400564005510055000553000552700015	CLM .00120 .00410 .00970 .01180 .01320 .01490 .01680 .01760 .01660 .01550 .01250 .00930 .00930 .00930 .009580 .00950 00650	CL .8910 .89580 .89700 .89760 .88450 .88730 .88840 .88680 .88240 .88530 .88540 .88540 .89120 .89120 .894530	CD .24340 .24000 .23940 .24010 .23930 .23780 .23780 .23960 .24310 .245507	L/D 3.69350 3.70050 3.72110 3.71550 3.70070 3.69520 3.71240 3.70930 3.70930 3.70630 3.69570 3.69570 3.69570 3.694920 3.644920 3.644920	CBL .02480 .02140 .01800 .01500 .01500 .00900 .00700 .00390 .001100019000760018400251000290	CYN0104000850006900061000450003700032000140 .00100 .00170 .00170 .00510 .00650 .00670 .00101	CY .13300 .11520 .09740 .08070 .06340 .01450 00240 01890 03570 08710 08710 12210 13980 13980 1693

(RNJ006) ( 24 NOV 75 )

-.01800

-.02190

-.02520

-.00312

3.67850

3.65380

3.64310 -.00012

.24410

. 24780

.24850

-.00024

-.. 10180

-.12150 -.13900 -.01684

.00600

00850

.01010

.00102

# ARC 135-1-12 LASS BASELINE

5.080

6.060

7.050

8.020

GRADIENT

8.389

8.391

8.389

.00000

.00000

.00000

.00000

.00000

### PARAMETRIC DATA REFERENCE DATA SPOBRK = 25.000 ALPHA = 18.000 1076.7000 IN. XO 2690.0000 SQ.FT. XMRP = .000 ELEVON = .000 AILRON = LREF 474.8000 IN. YMRP = .0000 IN. YO MACH = .290 BDFLAP = .000 BREF = 936.6800 IN. ZMRP = 375.0000 IN. ZO RUDDER = .000 GRITNO = .000 SCALE = .0150 GRADIENT INTERVAL = -5.00/ 5.00 RUN NO. 21/ 0 RN/L = 8.39CBL ' CYN CY RN/FT BETA ELEVON CA CLM CL CD L/D CN .91220 .13180 .02550 -.00970 8.354 -7.660 .00000 .94320 -.05910 -.00210 .24710 3.69100 -6.690 .02180 -.00750 .11190 8.377 -.05970 .00330 90350 .24350 3.71010 .00000 .93390 -.00590 .09490 .92820 .01840 8.383 -5.710 -.06020 .89830 .24130 3.72200 .00780 .00000 .01550 .07980 -.05990 -.05850 -.05800 -.00550 .24280 3.71360 8.352 -4.720 .90170 .00000 .93190 .01000 . .063+0 8.360 24440 3.69100 .01290 -.00440 -3.740 .93270 .92500 .01120 .90200 .00000 .04800 .89460 .24230 3.69140 .01010 -.00390 -2.770 .00000 .01380 .03410 .89730 .24270 .00720 -.00350 3.59770 8.373 -1.810 -.05850 .00000 .92770 .01530 .01670 .00420 -.00250 .89510 3.70140 .24210 8.379 -.820 .00000 .92640 -.05880 .01550 .00010 -.00140 3.70300 .00090 8.392 .170 .00000 .92500 -.05880 .01590 .89480 .24160 -.0030 -.00540 -.00860 -.01760 -.00010 8.402 .89500 .24190 3.70010 1.150 .00000 .92520 -.05860 .01500 .00090 ~.03450 3.70160 8.371 2.150 .00000 .92270 ~.05840 .01440 .89260 .24110 -.05110 3.69730 .00210 8,358 -.05810 .01170 .89350 .24170 3.130 .00000 .92370 -.06940 -.05830 .00390 3.69990 -.01180 8.388 4.110 .00000 .00910 .89380 .24160 .92400 .89590 .89900 .90530 -.08560 8.374 .24210 3.70000 -.01520 .00500

.00640

.00170

.90560 -.00092

~.00370

-.00730

-.00002

-.05840

-.05710

-.05500

-.05520

.00009

.92520

.92680

.93590

.93750

DATE 19 AUG 76 LAGG TABULATED SOURCE DATA (RN.1007) ( 24 NOV 75 )

ARC 135-1-12 LASS BASELINE

### PARAMETRIC DATA REFERENCE DATA SPDBRK = AILRON = BDFLAP = GRIINO = ALPHA = ELEVON = MACH = RUDDER = 25.000 18.000 2690.0000 SQ.FT. 474.8000 IN. XMRP 1076.7000 IN. XO = SREF = .000 .003 = .0000 IN. YO 375.0000 IN. ZO LREF = BREF = SCALE = YMRP .000 .220 ZMRP 935.6800 IN. .000 .0150 GRADIENT INTERVAL = -5.00/ 5.00 2.76 RUN NO. 26/ 0 RN/L = CY CBL CYN L/D CLM **ELEVON** CN CA RN/FT 2.732 2.733 2.732 2.736 2.746 2.745 2.745 2.745 2.748 2.752 2.752 2.756 2.760 2.760 2.760 2.760 2.760 BETA .13330 .02510 -.01060 BETA -7.600 -6.640 -5.700 -4.680 -3.730 -2.780 -1.800 -.780 .25410 3.50690 -.01060 -.00760 -.00570 -.00450 -.00330 -.00310 -.00130 -.00130 -.00030 .00010 .00050 .89110 .92590 .91870 -.03720 .00250 .00000 .00250 .00590 .00830 .01130 .01310 .01570 .01600 .11050 .25220 3.50630 .02130 -.03690 -.03760 .88420 .00000 .09620 .01780 .25030 3.51860 .88070 .91480 .00000 .07870 3.52360 .25020 .01410 .88170 .00000 .91570 -.03800 .06180 .01080 .87610 .24860 .90990 -.03780 .00000 .04610 3.50710 .00740 .87630 .24990 -.03660 .91050 3.49760 3.49760 3.49370 3.48770 3.48100 3.47040 3.47420 3.46680 3.44320 .00000 .03050 .00450 .86790 .24810 .00000 .90200 -.03560 .01350 .00160 .86610 .24790 .00000 .90020 -.03520 .86610 .86290 .86190 .86400 .86240 .86240 -.00370 .90020 .89590 .89510 .89650 .89690 .90740 .91050 -.00190 .24740 .170 .00000 -.03470 -.01860 -.00430 .24760 -.03420 .01540 -.03580 -.05010 .00000 1.130 -.00640 -.00890 -.01150 .24900 -.03350 .01270 2.100 .00000 .24870 -.03380 .01140 -.06680 -.08450 -.09980 3.070 .00000 .00240 -.03320 -.03170 .00840 .24880 4.040 .00000 .00300 -.01340 -.01590 .25140 5.030 .00000 .00390 3.41720 .25500 -.03000 .00110 5.990 .00000 -.11740 .00620 -.01890 -.00130 -.00700 -.02970 .87400 .25620 6.950 .00000 .00720 -.13780 3.41240 -.00687 ~.02260 .89000 .25790 -.03000 7.950 .00000 -.01664 -.00292 -.00026 -.00212 -.00012 .00057 GRADIENT .00000 -.00206 GRADIENT INTERVAL = -5.00/ 5.00 RN/L = 5.27 E4/ 0 RUN NO. CL .88840 .88100 .89120 .87850 .87580 CYN CLM .00580 .00950 .01380 .01680 CBL. CD L/D BETA **ELEVON** CN CA .13840 RN/FT CN .91810 .91010 .90720 .90750 .90770 .90340 .99820 .89830 3.73580 3.75150 3.76240 .02470 -.01180 .23780 5.295 5.306 ~.05450 -7.620 .00000 .02130 -.00960 .23490 .00000 -.05500 -6.700 .01820 -.00800 .10160 .23420 -.05570 5.291 -5.680 .00000 -.00640 .08290 .01450 3.76620 5.295 5.295 5.300 5.307 5.308 5.308 5.308 .23320 -.05570 -4.700 .00000 -.00500 .06650 3.76050 .01140 -.05520 -.05480 -.05460 .23290 .01870 -3.750.00000 -.00420 .05010 3.75360 .00870 .01980 .87530 .23330 -2.750 -1.780 3.75350 3.75450 3.75150 3.74490 3.73840 3.72500 3.72550 3.72550 3.71340 3.70300 3.69170 .00000 -.00310 .03440 .00630 .87170 .23220 .02210 .00000 .01720 -.00200 -.00100 .00340 -.800 .160 .02180 .86950 .23180 -.05430 .00000 .00020 .00090 02820. .86550 .23110 -.05360 .00000 -.01830 -.00210 .00050 .86390 .23110 .89270 .90000 -.05320 1.130 .00000 -.03530 -.00530 .00200 .87080 .23340 -.03630 -.05250 -.06850 -.08630 -.13330 -.12250 -.13950 -.01743 .02010 .00000 -.05310 2.130 -.00940 .87250 .87250 .87150 .87530 .00330 06668. 08100. 00100. 05cdd. .23340 3.080 4.070 5.040 6.030 6.990 7.970 5.296 5.287 5.292 -.05260 .01710 .00000 .00430 -.05290 -.05200 .23410 .00000 .01450 -.01500 .00560 .23470 .01090 -.01850 .00700 .23640 -.05160 .00610 .00000 5.293 -.02210 -.02570 .00910 .23860 -.05120 .00170 .00000 5.276 .01130 .23800 3.69130 .87850 -.00095 .90870 -.00088 -.05100 ~.00280 .00000 5.268 -.00293 .00035 -.00017 GRADIENT .00000

(RNJ007) ( 24 NOV 75 )

ARC 135-1-12 LAGG BASELINE

REFER	RENCE DATA						PARAMETRIC	DATA	
SREF = 2690.0000 LREF = 474.8000 BREF = 936.6000 SCALE = .0150	IN. YMRP =	.0000 IN. YO	•		E t	ALPHA = ELEVON = MACH = RUDDER =	000.81 000 025. 000	SPDBRK = AILRON = BDFLAP = GRITNO =	25.000 .000 .000 .000
	RUN NO.	22/ 0 RN/L =	6.43 GRA	DIENT INTERVAL	_ = -5.00	/ 5.00	•		
RN/FT BETA 6.431 -7.666 6.438 -6.670 6.435 -5.720 6.435 -4.690 6.437 -2.770 6.437 -2.770 6.434 -811 6.428 .170 6.434 2.060 6.437 3.080 6.437 3.080 6.437 5.030 6.437 5.030 6.437 7.020 6.437 7.020 6.437 7.020 6.437 7.020 6.437 7.020 6.437 7.020 6.437 7.020 6.437 7.020 6.437 7.020 6.437 7.020 6.437 7.020 6.437 7.020 6.437 7.020 6.437 7.020 6.437 7.020 6.437 7.020	0 .00000 0 .00000	CN CA .9234005870 .9162005910 .9156005940 .9156005700 .9110005700 .9039005680 .9050005710 .9047005670 .8990005670 .9043005670 .9043005670 .9068005670 .9087005760 .9087005760 .9087005520 .9134005520 .9134005520	CLM .001.00 .00690 :01110 .01420 .01630 .02030 .02070 .02040 .01920 .01590 .01190 .00480 .00920 00440	.CL .89450 .88780 .88780 .88190 .88190 .87540 .87550 .87650 .87650 .87580 .87580 .87800 .88120 .88010 .88670 .88670	CD .23650 .23400 .23580 .23280 .23230 .23230 .23240 .232860 .232860 .232860 .232860 .232860 .232860 .232860 .232860 .232860	L/0 3.78140 3.79450 3.79950 3.76840 3.76760 3.76920 3.76920 3.76680 3.76810 3.76810 3.7750 3.77560 3.77560 3.77560 3.75820 3.73380 3.72850 -00092	CBL .02510 .02140 .01750 .01450 .00900 .00900 .00340 .00360 00190 00470 01500 01500 02560 0290	CYN0112000830006300051000390003000021000960 .00170 .00510 .00590 .00590 .00950 .01090	CY .13700 .11730 .10060 .08380 .06660 .05000 .03380 .01710007001720050900509005090104501045012801412001746

## PAGE 21 LASS TABULATED SOURCE DATA

### **DATE 19 AUG 76** (RNJ008) ( 24 NOV 75 ) ARC 135-1-12 LAGS BASELINE

### PARAMETRIC DATA REFERENCE DATA BETA = ELEVON = MACH = SPOBRK = 25.000 .000 XMRP 1076.7000 IN. XO = SREF = 2690.0000 SQ.FT. AILRON = .000 5.000 = .0000 IN. YO . YMRP LREF 474.8000 IN. BDFLAP = .000 .290 375.0000 IN. ZO ZMRP = BREF = 936.6800 IN. GRITNO = .000 .000 RUDDER = SCALE = .0150 GRADIENT INTERVAL = -5.00/ 5.00 8.29 RUN NO. 2/ 0 RN/L = CY CYN L/D CBL CD CLM CŁ **ELEVON** CN CA **ALPHA** -.00250 RN/FT .00050 .00050 .00020 -.00020 -1.57160 .06640 -.10430 -.01420 8.315 8.318 4.96000 -.10780 .06050 ~3.190 .06520 .06490 .06560 -.00020 -.00170-.81130 -.01450 -.05290 .06330 4.98000 -.05520 -2.010 .00000 -.00420 .51310 -.01440 .03330 4.98000 .03330 .06490 .00000 8.296 .000 -.00470 .00020 1.21450 .07960 .06410 -.01480 .08080 8.300 1.010 4.97000 -.00400 .00020 -.01480 -.01500 -.01520 1.88340 .12610 4.99000 2.010 .12840 8.284 -.00390 -.00010 2.49350 .00010 .06950 .17330 .17670 .06020 5.00000 8.278 3.040 -.00410 .00010 .00010 .07230 .07570 3.00460 .21710 .05670 .22160 5.00000 8.281 4.050 .00000 .00000 -.00410 3.46020 -.01510 .26200 .05250 .26770 5.00000 8.264 5.020 -.00410 .00000 .00010 3.87060 .08020 .31050 .04690 -.01520 .31730 .00010 .00000 .00000 .00000 -.00010 8.273 6.070 5.01000 -.00400 .00000 .08540 4.23720 -.01560 .36950 .04020 .36170 8.286 8.270 4.99000 7.070 -.00440 .00020 4.43110 .03370 -.01590 .40640 .41520 .47250 4.97000 8.070 -.00400 .00010 .10030 4.61000 8.283 8.285 8.291 8.261 8.278 8.260 .02570 -.01590 .46240 9.120 4.94000 .10900 .11990 .13300 .14680 .00020 -.00420 4.63950 -.01530 .50560 .51690 10.120 4.95000 -.00460 .00030 4.62800 .01030 -.01380 .55470 4.93000 .56740 11.160 -.00460 .00030 4.56230 .60660 -.01300 4.84000 .62100 12.170 -.00270 -.00060 .00010 4.44070 -.01350 .65180 -.00540 4.39000 .66810 13.150 .00010 -.00290 -.01330 -.01410 -.01620 -.01810 -.00050 4.31330 .16300 .70320 -.01410 .72170 4.94000 14.170 .00000 -.00350 .18150 .20270 -.00040 4.16010 .75500 -.02260 ,77610 8.239 15.180 4.89000 -.00200 -.00030 3.99310 .80940 -.03170 4.94000 .83370 8.292 16.240 -.00020 -.00040 -.00210 3.82240 .22510 .86050 8.276 8.257 .88860 -.03990 4.90000 17.230 .00050 -.00040 -.00120 3.65210 .25220 .92100 .95370 -.04810 -.02290 -.00040 -.00240 -.00100 -.00010 .00120 .00250 -.00006 18.200 4.89000 -.00190 .00300 .28120 3.46590 .97470 -.05560 -.02690 8.265 19.230 4.90000 1.01290 -,00370 .00540 .32350 3.19940 8.255 8.245 8.249 8.227 8.221 ~.03340 1.03500 -.05490 20.260 4.93000 1.08300 -.00250 .00460 -.05590 -.05430 -.05080 -.04640 -.00049 .36130 2.99410 -.03530 1.08160 4.93000 1.13960 21.280 .40220 .44960 .50030 -.00290 .00420 2.79130 -.03690 1.12270 22.320 4.88000 1.19130 -.00190 -.00003 .00250 2.60990 -.04460 1.17330 23.280 4.92000 1.25550 -.00110 2.44180

-.05180

-.00013

24.290

GRADIENT

4.88000

00486

1.31940

.04557

1.22170

.04455

.64343

( 24 NOV 75 )

.00280

.00320

.00030

.00015

-.00270

-.00260

-.00090

-.00001

-.00140 .

-.00050

.00150,

-.00007

(RNJ009)

# ARC 135-1-12 LASS BASELINE

8.052

8.044

8.040

22.220

23.290

24.260

**GRADIENT** 

-4.96000

-4.83000

-4.90000

.00237

1.01300

1.07250

1.12010

.04543

-.05930

-.05000

-.05530

-.00040

	REFEREN	NCE DATA						•	PARAMETRIC	DATÀ	
SREF = 6 LREF = BREF = SCALE =	2690.0000 SC 474.8000 IN 936.6800 IN	YMRP	= .0	000 IN. XO 000 IN. YO 000 IN. ZO				BETA # ELEVON = . MACH = RUDDER #	.000 -5.000 .290 .000	SPDBRK = AILRON = EDFLAP = GRITNO =	25.000 .000 .000 .000
		RUN NO.	3/ 0	RN/L = 8	3.11 GRA	DIENT INTER	RVAL = -5.0	00/ 5.00		•	•
RN/FT 8.117 8.110 8.083 8.095 8.086 8.108 8.114 8.114 8.114 8.114 8.114 8.117 8.095 8.095 8.095 8.095 8.095 8.095	ALPHA -3.210 -2.030 020 090 1.990 3.010 3.990 5.000 5.990 10.050 11.080 12.090 13.120 14.100 15.113 16.130 18.170	ELEVON -4.92000 -4.92000 -4.92000 -4.99000 -4.91000 -4.91000 -4.91000 -4.92000 -4.89000 -4.89000 -4.89000 -4.89000 -4.89000 -4.89000 -4.89000 -4.89000 -4.89000 -4.89000 -4.89000 -4.92000	CN287502324019120095500991009870089701341028470335903813046470533905968674077080	CA .05510 .05900 .06150 .06160 .06030 .05570 .05170 .04150 .04150 .0240 .0240 .0240 .0240 .0240 .0240 .0240 .0240 .0350 .01420 .00600 00190 00930 01800 01800 01800	CLM .07060, .07010 .06940 .06960 .07010 .07010 .07020 .06950 .06950 .06950 .06760 .06730 .06890 .07060 .07220 .07230 .07230 .06930	. CL28390230201412009650051200512005120051200512007120239027670327103715047230575105751057510575105758074580	CD .07110 .06720 .06720 .06150 .05860 .05840 .05820 .05910 .06130 .06740 .07920 .08720 .08720 .10810 .12100 .13670 .15450 .17500 .19920	L/D -3.99210 -3.42420 -2.29340 -1.609408731009890 .59110 1.38650 2.76070 3.32030 3.80080 4.125980 4.37480 4.36200 4.25980 4.26900 4.26900 3.92070 3.74380	CBL000500007000090001000011000130001300013000100001000010000100001000010000100	CYN000600006000060000600006000060000500005000040000400004000040000800008000080	CY00480005000042000450004500048000360003600036000430004300043000420003900039000390003900027000190
8.050 8.050 8.059	19.180 20.210 21.200	-4.96000 -4.92000 -4.93000	.83150 .90190 .95250	05100 05770 05730	.05810 .05130 .04790	.80210 .86530 .91810	.22500 .25740 .29470	3.55530 3.36510 3.11520	00070 00200 00280	00120 00160 00310	00240 00030 .00290
0.009	61.600	-7.53000	. 20577	~.05/50	- UT / SU	.51010	73770	2.07200	- 00160	- 00270	กกลยก

.04680

.04550

.04260

-.00004

.95040

1.00730

1.04390

.04440

2.93200

2.54740

.65054

.32760

.36900

.40980

# DATE 19 AUG 76 (ANJ001) ( 24 NOV 75 ) ARC 135-1-12 LAGG BASELINE

REFERENCE DATA					PARAMETRIC DATA						
SREF =   LREF = BREF = SCALE =	2690.0000 SQ. 474.8000 IN. 936.6800 IN. .0150	FT. XMRP YMRP	= .0	000 IN. XO 000 IN. YO 000 IN. ZO	-			BETA = ELEVON = MACH = RUDDER =	.000 .000 .290 .000	SPDBRK = AILRON = BDFLAP = GRITNO =	25.000 .000 .000 .000
SCALE =	ALPHA -3.150 -2.010 .000 .990 1.980 3.010 3.980 5.000 6.000 6.990 8.000 11.000 11.000 11.990 13.010 14.030	RUN NO.  CSL00150001000003000010 .00040 .00060 .00090 .00160 .00280 .00280 .00360 .00580 .00580	14/ 0  CLN007300074000750007500075000750007500079000790008400085000850	CPCAV249002450024700256002580025800268002660026600268002680026800	5.96 GR - 24800 - 25100 - 24500 - 24800 - 24800 - 24800 - 24800 - 24800 - 24800 - 24800 - 25000 - 25000 - 25000 - 26000	ADIENT INTER Q(PSF) 418.40000 418.80000 417.30000 417.30000 416.70000 416.70000 415.80000 417.60000 418.20000 418.30000 418.50000 417.60000 417.60000	ELVN-L .82000 .79000 .79000 .81000 .81000 .81000 .79000 .79000 .79000 .77000 .76000 .73000 .71000 .66000 .62000		.000  XCP/L .67900 .69300 .98000 .48800 .58800 .61300 .62600 .63700 .64000 .64200 .6430C .64400 .64500 .64500 .64400	AILRON - 84000 - 85000 - 85000 - 87000 - 87000 - 86000 - 85000 - 86000 - 85000 - 86000 - 85000 - 87000 - 87000 - 84000 - 84000 - 74000	BETA -4.03000 -4.03000 -4.03000 -4.03000 -4.03000 -4.03000 -4.03000 -4.01000 -4.01000 -3.99000 -3.99000 -3.95000 -3.95000 -3.91000
5.912 5.600 5.884 5.894 5.893 5.860 5.879 5.875	14.990 16.020 17.020 18.030 19.020 20.070 21.040 22.040 23.030 24.050 GRADIENT	.00460 .00453 .00440 .00530 .00530 .00810 .00500 .00500 .00410	00870 00900 00900 00850 00830 00930 00970 00910 00910 00003	28600 29000 29000 29900 30400 30600 33000 33200 34000 00150	26200 27100 27800 28700 29500 31300 34600 36000 38900 .00072	417.40300 416.00000 414.20000 415.90000 416.00000 414.83000 414.80000 414.80000 414.50000 11297	.41000 .36000 .31000 .15000 .06000 .07000 .04000 .04000 .04000	1 91000 1.66000 1.45000 1.37000 1.38000 1.40000 1.29000 1.22000 1.18000 .00389	.64500 .64700 .64800 .64900 .65100 .65200 .65300 .65500	75000 65000 57000 51000 66000 65000 52000 51000 57000	-3.89000 -3.87000 -3.85000 -3.83000 -3.78000 -3.76000 -3.71000 -3.71000 -00088

# ARC 135-1-12 1 A66 BASELINE

ŗ.	AND 100 1 15 ENGO DADEETHE	
	,	DIÖLVETOLO DATA
REFERENCE DATA	• ,	PARAMETRIC DATA

(ANJOO1) (24 NOV 75 )

SREF = LREF = BREF = SCALE =	2690.0000 SC 474.8000 IN 936.6800 IN .0150	1. YMRP	= .0	7000-IN. XO 1000 IN. YO 1000 IN. ZO			•	BETA = ELEVON = MACH = RUDDER =	-4.000° .000 .290 .000	SPDBRK = AILRON = BOFLAP = GRITNO =	25.000 .000 .000 .000
		RUN NO.	13/ 0	RN/L =	6.89 GR	ADIENT INTER	RVAL = -5.0	10/ 5.00			•
RN/FT 6.912 6.995 6.997 6.879 6.895 6.897 6.899 6.8877 6.8877 6.869 6.872 6.869 6.850 6.850 6.850 6.850 6.850 6.850 6.850	ALPHA -3.010 -1.940 .020 2.000 2.000 2.990 4.000 5.000 6.020 7.020 9.030 11.050 12.060 13.070 14.050 15.070 16.090 17.690 18.070 18.070 18.070 18.070 18.070 18.070 18.070 18.070 18.070 18.070 18.070 18.070 18.070 18.070	CSL00150001100004000010 .00010 .00060 .00100 .00140 .00180 .00290 .00400 .00531 .00530 .00510 .00590 .00470 .00480 .00570 .00570 .00570 .00570 .00570 .00530 .00530	CLN:00680007100079000790007900074000740007500076000810008300083000830008300083000830008300083000830008300083000830	CPCAV25000025520002552000255200025520002552520002552500025525000255250002552500025525000255250002552500025525000255250002552500025525000025525000025525000025525000000000000000000000000000000000	CP8550025500025500025500025500025500025500024500024500024500024500024500024500024500024500024500024500024500024500025300002650002680000288000	Q(PSF) 476.00000 474.60000 477.20000 477.20000 478.90000 478.90000 478.80000 479.30000 479.20000 478.80000 479.20000 478.80000 479.20000 478.80000 477.80000 476.50000 476.50000 476.50000 476.50000 476.90000 482.20000 482.20000 482.20000 479.40000 479.40000 478.90000	ELVN-L .90000 .90000 .90000 .90000 .90000 .87000 .89000 .90000 .84000 .81000 .81000 .71000 .68000 .71000 .71000 .71000 .71000 .71000 .71000 .71000 .71000 .71000 .71000	ELVN-R 2.35000 2.36000 2.36000 2.36000 2.36000 2.41000 2.44000 2.44000 2.47000	XCP/L 67900 .69000 .51100 .591700 .63700 .63700 .63700 .63700 .647500 .647500 .647500 .647500 .647500 .65700 .6	AILRON730007300073000730007500075000760007600077000770007700078000790007900079000790007900075000550005500055000550005500055000550005500055000	BETA -+.03000 -+.04000 -+.04000 -+.04000 -+.04000 -+.03000 -+.03000 -+.010004.010003.990003.990003.990003.990003.990003.990003.990003.990003.990003.990003.990003.990003.990003.990003.99000
	GRADIENT	.00030	00003	.00044	.00132	.35315	00154	.00550	01597	00333	.00040.

REPRODUCIBILITY OF THE DEPOSITION PAGE IS POOR

## PAGE 25 LASS TABULATED SOURCE DATA

(ANJOO1) ( 24 NOV 75 )

# ARC 135-1-12 LASS BASELINE

DATE 19 AUG 76

REFERENCE DATA					, PARAMETRIC DATA						
SREF = LREF = BREF = SCALE =	2690.0000 SQ.F 474.8000 IN. 936.6800 IN.	T. XMRP YMRP ZMRP	= .0	000 IN. XO 000 IN. YO 000 IN. ZO				BETA # ELEVON = MACH # RUDDER =	-4.000 .000 .290 .000	SPDBRK = Allron = BDFLAP = GRIINO =	25.000 .000 .000 .000
		RUN NO.	12/ 0	RN/L =	8.43 GR	ADIENT INTER	RVAL = -5.0	00/ 5.00			
RN/FT 8.477 8.468 8.442 8.420 8.415 8.415 8.415 8.405 8.396 8.399 8.377 8.365 8.357 8.357 8.357 8.357 8.358 8.357 8.358 8.358 8.358	ALPHA -3.200 -2.020 -2.020 -2.020 -3.060 4.080 5.080 5.080 7.070 8.060 9.080 10.100 11.120 12.160 13.160 14.150 15.210 16.160 17.190 18.200 19.210 20.280 21.310 22.270 23.290 24.300 GRADIENT	CSL .00060 .00110 .00150 .00190 .00210 .00230 .00330 .00320 .00410 .00590 .00590 .00590 .00790 .00790 .00760 .00760 .00760 .00760 .00760 .00760 .00900 .00760 .00900 .00900 .00900 .00900 .00900 .00580 .00580 .00580 .00580	CLN0050000510005300064000620006400067000690007400076000760007600076000800	CPCAV223002250023100231002330023700235002430024300243002430025800258002580025800278002780027800278002780033100331900337003370000093	CPBASE2670026500265002650026600266002620026200262002620026400264002750027500275002870028700318003290032900329003540035400354003540035400	Q(PSF) 560.90000 561.50000 560.80000 560.50000 560.20000 560.20000 561.10000 562.10000 562.30000 562.10000 562.60000 561.20000 562.60000 561.20000 563.30000	ELVN-L0300002000010000300005000050000500005000070001400014000110000700012000020000200002000020000300003000030000300003000030000300003000030000300003000030000300003000030000300003000	ELVN-R090000500005000050000500005000060000600007000050000500005000050000500005000050000500005000050000500005000050000500005000050000500005000	XCP/L .69400 .71200 .87300 .02100 .52400 .60000 .61200 .62700 .63100 .63400 .63400 .63800 .63900 .64000 .64100 .64100 .64500 .64500 .65200 .65300 .65500 .65500	AILRON	BETA -4.05000 -4.05000 -4.05000 -4.05000 -4.05000 -4.05000 -4.05000 -4.03000 -4.03000 -4.02000 -4.02000 -4.02000 -3.98000 -3.98000 -3.98000 -3.98000 -3.98000 -3.95000 -3.95000 -3.95000 -3.95000 -3.95000 -3.95000 -3.95000

(ANJ002) ( 24 NOV.75 ) \*\* '

# ARC 135-1-12 LAGG BASELINE

,	REFERENC	E DATA	,					•	PARAMETRIC	DATA	
SREF = LREF = BREF = SCALE =	2690.0000 SQ. 474.8000 IN. 936.6800 IN. .0150	YMRP	= .0!	000 IN. XO 000 IN. YO 000 IN. ZO		,		BETA = ELEVON = MACH = RUDDER =	.000 .000 .290 .000	SPOBRK # Allron = BOFLAP = GRIINO =	25.000 .000 .000
		RUN NO.	8/ 0	RN/L =	1.97 GR	ADIENT INTER	RVAL = -5.0	5.00			
RN/FT 1.976 1.976 1.968 1.966 1.968 1.969 1.968 1.965 1.965 1.963 1.963 1.963 1.963 1.963 1.963 1.969 1.959 1.959	14.710	CSL00200002100021000210002400027000320003200032000330003300033000330003400036000490	CLN002200021000210002100023000230002300020000190001900019000130001200012000120001200015000150001500015000150001500015000150001500018000100	CPCAV117001290012900132001350013500145001450014500145001450014500151001590016500165001650016500165001650016500165001650016500165001650016500	CPB5000 219000 219000 219000 219000 219000 21910000 21910000 229100000 229100000 22910000 22910000 22910000 22910000 22910000 22910000 22910000 22910000 22910000 22910000 22910000 22910000 22910000 22910000 22910000 22910000 22910000 229100 229100 -	Q(PSF) 136.70000 136.90000 136.90000 136.90000 136.90000 138.30000 138.50000 138.50000 138.70000 138.70000 138.20000 138.40000 138.20000 138.20000 138.20000 138.20000 138.20000 138.20000 138.20000 138.20000 138.20000 138.20000 138.20000 138.30000 138.30000 138.30000 138.30000 138.30000 138.30000 138.30000 138.30000 138.30000 138.30000 138.30000 138.30000 138.30000	ELVN-L -: 04000 -: 05000 -: 05000 -: 05000 -: 05000 -: 12	ELVN-R0800009000160001400004000 .04000 .04000 .05000 .05000 .05000020000200002000020000200002000020000200002000020000200002000	XCP/L .70400 .72700 .90700 .90700 .51600 .52000 .55800 .60600 .61500 .62500 .63200 .63200 .63200 .63700 .64100 .64600 .65000 .65200 .65500 .65500 .65500	.02000	BETA .00000

**DATE 19 AUG 76** 

GRADIENT

-.00011

( 24 NOV 75 ) (ANJ002) ARC 135-1-12 LAGS BASELINE PARAMETRIC DATA

### REFERENCE DATA 25.000 .000 SPDBRK = BETA = ELEVON = 1076.7000 IN. XO XMRP = AILRON = .000 SREF 2690,0000 SQ.FT. .000 = .0000 IN. YO YMRP BOFLAP = .000 LREF = 474.8000 IN. .290 MACH ZMRP 375,0000 IN. ZO GRITNO = .000 936.6800 IN. BREF = RUDDER = .000 .0150 SCALE = GRADIENT INTERVAL = -5.00/ 5.00 3.97 RN/L = 7/ 01-RUN NO. BETA AILRON XCP/L Q(PSF) 280.10000 ELVN-R ELVN-L **CPBASE CPCAV** CLN .00000 **CSL** -.03000 **ALPHA** RN/FT -.01000 .70300 -.07000 -.21700 -.18900 00000 -3.130 -.00140 -.00110 -.02000 3.971 -.01000 .72300 -.06000 -.22700 280.50000 -.19700 -1.980 -.00140 -.00120 -.03000 .00000 3.966 .88200 .00000 -.05000 281.60000 -.22600 -.00160 -.00170 -.00120 -.19400 .00000 .00000 -.03000 3.968 12.60000 -.06000 -.23400 280.80000 -.19900 -.00120 .00000 .970 -.04000 3.961 .41000 -.07000 261.60000 283.40000 -.22700 -.19400 -.00110 .00000 -.00180 -.01000 1.970 3.965 -.04000 .53700 -.05000 -.22600 -.19900 ~.00200 .00000 -.00110 -.03000 3.975 3.000 .57700 -.06000 .01000 -.23300 282.70000 -.20100 -.00100 .00000 3.968 3.950 -.23300 -.22400 -.23000 -.22700 -.22500 -.22500 -.23300 .59800 -.05000 -..7000 .02000 284.50000 -.00100 -.19700.00000 4:930 -.00220 -.05000 3.979 .61000 .02000 -.09000 .00000 .00000 .00000 .00000 283.60000 -.00080 -.20400 5.930 -.00230 -.05000 3.971 .61900 -.07000 .03000 -.00080 -.00090 -.00080 -.00070 -.00060 -.00060 284.10000 -.19600 3.974 3.970 3.971 6.930 -.00220 -.05000 .04000 .62500 -.07000 283.60000 -150100 7.940 -.00230 .62900 -.08000 .05000 283.90000 -.10000 -.20300 8.900 -.00240 .63200 -.07900 .07000 283,60000 -.07000 -.20500 3.968 9,910 -.00250 -.08000 .07000 .63300 -.09000 283.50000 .07000 .03000 .02000 .06000 .01000 .07000 -.09000 -.03000 -.20400 10.880 -.00240 -.07000 3.967 .63300 -.10000283.50000 -.55800 -.20600 11.920 .00000 -.00260 3.956 -.03000 .63400 282.20000 -.04000 -.20900 -.23900 .15.900 .00000 -.00270 3.956 .63500 -.65660 -.04000 -.23900 282.80000 13.890 14.900 15.900 16.950 17.830 ~.00050 .00000 -.00270 -.03000 3.960 .63600 -.04000 -.24300 283.90000 -.00050 -.21100 -.00260 .00000 3.956 .63800 -.07000 -.06000 283.00000 -.21500 -.25200 -.00050 .00000 -.00270 .01000 3.959 .64200 -.07000 282.80000 - 21900 -.22600 - 25500 -.regio -.99350 .00000 3.955 .00000 .64400 -.05000 -.26100 281.80000 -.00090 .00000 3.950 -.00480 .64700 -.03000 -.09000 -.26500 283.10000 -.00120 ~.22600 .65000 .00000 18.850 -.00430 3.958 -.03000 .01000 -.04000 -.28700 282.70000 00000. -.24500 -.00200 -.00230 19.830 .65100 .65300 3.954 .05000 -.07000 -.08000 283.00000 ~.28900 -.00100 -.25500 3.955 20.820 -.00180 . 00000 283.50000 -.07000 -.30400 21.820 22.790 .00070 -.26000 -.00230 -.03000 3.958 .00000 .65500 -.07000 283.40000 -.27300 -.31800 .00010 .00000 3.956 3.950 -.00350 -.09000 -.01000 .65500 282.60000 ~.11000 -.28800 -.34200 23.840 -.00440 .00010 .00000

.48914

-.00083

-.00090

.00002

.00008

-.00140

( 24 NOV 75 )

(S00U/A)

ARC 135-1-12 LA66 BASELINE

	REFERENC	E DATA							PARAMETRIC	DATA	
SREF = LREF = BREF = SCALE =	2690.0000 SQ. 474.8000 IN. 936.6800 IN.	. YMRP	= .00	000 IN. XO 000 IN. YO 000 IN. ZO	٠		,	BETA = ELEVON = MACH = RUDDER =	.000 .000 .000 .000	SPDBRK = AILRON = BDFLAP = GRITNO =	25.000 .000 .000 .000
		RUN NO.	6/ 0	RN/L =	4.97 GR	ADIENT INTER	RVAL = -5.0	00/ 5.00			
F.7.09%60,960+9+5550060866098+255 F.7.6966655555666564649-0999999999999999999999999999999999	ALPHA -3.160 -1.970 .990 1.960 2.980 3.960 2.980 5.950 6.940 10.930 11.990 11.990 11.990 11.990 11.990 11.990 11.990 11.990 11.990 11.990 11.990	CSL001200013000150001500016000190002000022000240002400025000260002800028000280002800028000280002900034000340003400019000170	CLN000600007000070000600005000050000300003000030000200002000020000200003000030000500005000050000500005000050000500005000050000500005000050	CPCAV199002020019800203002030020400204002040020500205002110021300215002150022500225002550025500258002580029300	CPBASE237002410023900249002370024100242002420024200242002500025000250002500025000250002500025000250002500025000250002500025000250002500025000	Q(PSF) 349.10000 349.00000 350.80000 350.50000 349.70.00 350.90000 353.70000 353.70000 353.30000 352.80000 352.80000 353.20000 353.20000 353.40000 353.40000 353.40000 353.40000 353.40000 353.40000 353.40000 353.70000 353.70000 353.70000	ELVN-L0200001000010000300003000030000300003000050000500007000070000700007000070000700007000070000700007000070000700007000070000700005000100001000010000100001000010000090000900011000	ELVN-R09000 .04000 .04000 .04000 .01000 .0700002000 .05000 .07000 .05000 .0500004000 .05000 .05000 .050000500005000 .0500005000050000500005000	XCP/L .70200 .98600 -6.17500 .42500 .58200 .58200 .62100 .62100 .63500 .63500 .63500 .63500 .63500 .63500 .63600 .64600 .64600 .65000 .65000	AILRON .04000 ~.04000 ~.03000 ~.05000 ~.05000 ~.05000 ~.05000 ~.05000 ~.04000 ~.04000 ~.05000 ~.04000 ~.05000 ~.04000 ~.04000 ~.04000 ~.04000 ~.04000 ~.04000 ~.04000 ~.04000 ~.04000 ~.04000 ~.04000 ~.04000 ~.04000 ~.04000	BETA .00000
4.923	23.950 GRADIENT	00170 00012,	.00180	29300 00054	33600 00010	351.70000 .19185	11000 00173				

REPRODUCIBILITY OF THE OFICENAL PAGE IS POOR

PAGE LAGG TABULATED SOURCE DATA **DATE 19 AUG 76** 

( 24 NOV 75 )

-.00412

.00705

-.00378

.00000

(S00UAA)

## ARC 135-1-12 LAGG BASELINE

.00020

24.020

GRADIÈNT

5.870

-.00080

.00003

-.30800

-.00089

PARAMETRIC DATA · REFERENCE DATA 1076.7000 IN, X0.7/ 0000 IN, Y0 375.0000 IN, Z0 BETA = ELEVON = MACH = 25.000 SPDBRK = .000 XMRP = YMRP = ZMRP = 2690.0000 SQ.FT. SREF = .000 .000 AILRON = 474.8000 IN. LREF = .290 BDFLAP = .000 936.6800 IN. BREF = GRITNO = .000 RUDDER = .000 SCALE = .0150 GRADIENT INTERVAL = -5.00/ 5.00 5.94 RUN NO. 5/ 0 RN/L = BETA XCP/L ELVN-R CPCAV -.20400 -.20500 CPBASE Q(PSF) ELVN-L CSL. CLN RN/FT ALPHA . -.04000 -.03000 -.02000 .00000 .70200 .01000 -.23500 420.90000 5.965 5.958 -.00050 -3.170 -:00130 .00000 .02000 .72000 -.23700 421.20000 -1.990 -.00140 -.00060 .00000 .86900 -.05000 -.04000 .06000 419.80000 -.20800 -.00150 -.00060 .000 5.940 -5.44200 -.04000 .00000 -.03000 .05000 -.00150 -.00170 -.00170 -.00170 420.40000 -.00060 -.21100 -.24400 5.941 1.020 -.04000 .00000 .44800 -.02000 .06000 -.24800 418.20000 -.00040 -.21500 5.923 1.980 .00000 -.05000 .54700 -.03000 .06000 418.20000 -.20600 -.24000 -.00050 2.970 5.919 -.04000 .00000 .58100 -.04000 .05000 -.24400 418.60000 -.00030 -.209005.917 3.980 -.06000 .00000 -.04000 .08000 .60200 419.40000 -.24400 -.00190 -.00030 -.21300 5.919 4.960 -.09000 .00000 -.04000 .14000 .61200 5.917 5.902 5.908 -.20900 -.24100 419.50000 -.00170 -.00010 5.990 -.04000 -.07000 -.06000 -.07000 -.07000 -.07000 -.09000 -.07000 .00000 .62100 .06000 -.23800 417.90000 -.21400 6.970 -.00200 -.00010 -.05000 .00000 .62700 .04000 -.24200 419.20000 -.00230 -.00020 -.21400 7.980 .00000 -.02000 .63200 -.24200 418.30000 5.899 5.900 5.891 -.21400 8.980 -.00230 .00000 .00000 -.01000 .63400 -.03000 418.80000 -.24600 -.00230 .00000 -.21800 9.970 -.07000 .00000 .05000 .63500 -.24400 417.70000 -.00250 .00000 -.22100 10.970 -.04000 -.01000 .00000 -.00250 -.00260 -.00280 -.00260 -.00250 -.00230 .63500 -.24800 417.20000 -.22200 .00010 5.885 11.960 -.01000 -.04000 .00000 .63600 417.80000 -.25000 .00020 -.22500 5.887 12.980 -.04000 .00000 -.11000 -.02000 .63700 421.00000 .00000 -.22100 -.25400 5.908 13.970 .63800 -.06000 .00000 .02000 -.09000 421.80000 -.00020 -.22100 -.25000 5.911 14.980 -.08000 .00000 .07000 .64000 -.08000 -.25500 421.20000 -.23200 .00000 5.906 16.000 -.0+000 .00000 ~.09000 .00000 .64:00 421.60000 ~.28600 -.23300 .00000 5.905 17.010 -.09000 .00000 -. 14000 .04000 .64400 -.28400 419.30000 -.24300 5.887 17.990 -.00240 -.00060 -.08000 -.05000 -.05000 -.07000 -.09000 -.10000 -.07000 .00000 .06000 .64600 -.29300 419.20000 -.24500 5.885 ~.00220 -.00050 18.990 -.05000 .00000 .64900 .04000 -.30000 418.90000 -.00410 -.00340 -.25000 5.881 20.020 -.06000 .00000 .06000 .65000 -.30700 421.30000 -.00080 -.00070 -.25900 5.896 21.040 -.01000 .00000 -.04000 .65100 -.33100 418.B0000 5.876 -.27500 -.00040 22.010 .00100 -.09000 -.08000 .00000 .09000 .65300 -.34100 420.10000 -.29300 .00120 -.00030 5.882 23.030 .00000 .05000 -.35400 -.00109 .65400

418.50000

( 24 NOV 75 )

-.05000

-.07000

-.08000

-.08000

.00428

.01000

.00000

.00000

.00000

.00000

.00000

.00000

(SOOLINA)

.64900

.65000 .65000 .65200

.65400

-.23152

.04000

.02000

.09000

.07000

-.01438

-.11000

## ARC 135-1-12 LASS BASELINE

6.876

6.882 6.875 6.904 6.897

20.100

21.130

23.140

24.150

GRADIENT

-.00360

-.00210

.00080

.00080

.00120

-.00005

-.00320

-.00120

-.00040

-.00080

-.00120

.00002

	REFERENCE	E DATA							PARAMETRIC	DATA	
SREF = LREF = BREF = SCALE =	2690.0000 SQ.6 474.8000 IN. 936.6800 IN.	FT. XMRP YMRP ZMRP		000 IN. XO 000 IN. YO 000 IN. ZO	,			BETA = ELEVON = MACH = RUDDER =	.000 .000 .290 .000	SPDBRK = AILRON = BDFLAP = GRITNO =	25.000 .000 .000 .000
		RUN NO.	4/ 0	RN/L =	6.95 GF	RADIENT INTER	VAL ≈ -5.00	0/ 5.00			
RN/FT 6.973 6.989 6.969 6.969 6.957	ALPHA -3.180 -2.010010 .980 1.990 3.020	CSL 00080 00120 00100 00110 00130 00130	CLN 00030 00020 00030 00020 00030 00030	CPCAV 19800 20300 20500 20100 20700 20300 20400	CPBASE 24800 24800 25100 25300 24800 24300	Q(PSF) 480.70000 484.70000 483.50000 484.20000 483.20000 483.70000	ELVN-L 02000 02000 04000 03000 02000 03000	ELVN-R .06000 .01000 .04000 07000 .00000 .05000	XCP/L .70100 .71900 .86200 -26.92000 .54700 .58300	AILRON 04000 01000 04000 .02000 01000 04000	BETA .00000 .00000 .00000 .00000 .00000
6.967 6.964	3.990 5.010	00130	~.00000	20600	24700	486.00000 486.40000	06000 04000	08000 12000	.60200 .61300	.01000 .04000	.00000

-.04000 -.12000 -.20500 -.25100 486,40000 .00000 6,962 5.990 -.00140 .00000 .00000 -.03000 .62100 -.03000 -.20100 -.24200 487.70000 6.968 6.990 -.00140 .00010 .62700 -.03000 -.02000 -.08000 486,90000 6.956 8.010 -.00150 .00020 -.20600 -,24800 .00000 .63100 -.06000 .04000 -.08000 -.21400 -.25400 485,90000 9.010 -.00140 .00010 6.946 -.05000 .63300 10.010 11.020 12.040 13.040 14.040 485.30000 -.06000 .04000 -.20900 -.25200 6.939 -.00130 .00020 .00000 .63400 -.04000 -.07000 .01000 486.50000 -.20900 -.25000 .00020 6.946 -.00130 -.07000 -.07000 -.05000 -.09000 -.09000 -.13000 .00000 .63500 .00000 -.07000 -.21400 -.25100 487,40000 6.948 -.00150 .00030 .00000 .63500 .01000 -.07000 -.21800 -.25200. 487.10000 6.943 -.00180 .00040 .00000 -.23500 -.23500 -.23300 -.23500 -.23500 -.03000 -.04000 .63600 -.26200 484.00000 6.917 -.00170 .00030 .00000 -.05000 .63800 -.01000 484.10000 -.26800 15.040 -.00210 .00020 6.909 00000. 486.10000 484.10000 .05000 .64000 -.07000 -.26900 .00020 6.920 16.060 -.00190 .03000 .64200 -.08000 6.903 17.000 -.00200 -.00010 -.28600 .00000 .00000 .64400 -.06000 485,90000 -.05000 -.27800 6.908 18.080 -.00190 -.00040 -.01000 .64600 -.04000 483.20000 -.05000 -.243CO -.29300 6.886 19.080 -.00120 -.00090

-.31300

-.32400

-.32300

-.34700

-.35100

.00030

482,20000

483.60000 482.90000 487.70000

487.3JJ00 .33057

-.07000

-.09000

-.12000

-.07000

-.09000

-.00435

-.25400 -.25900

-.26900

-.28300

-.30000

**DATE 19 AUG 76** (ANJ002) ( 24 NOV 75 )

ARC 135-1-12 LAGG BASELINE

	REFERENCE	Ε ΠΔΤΔ							PARAMETRIC	DATA	
LREF = 4	590.0000 50.1 174.8000 IN. 336.6800 IN.		= .00	000 IN. XO 000 IN. YO 000 IN. ZO	-			BETA = ELEVON = MACH = RUDDER =	000. 000. 000.	SPOBRK = AILRON = BOFLAP = GRITNO =	25.000 .000 .000 .000
	•	RUN NO.	1/ 0	RN/L =	8.42 GR	ADIENT INTER	RVAL = -5.0	0/ 5.00			
RN/FT 8. +26 8. +34 8. +407 8. +407 8. +407 8. +407 8. 404 8. 388 8. 389 8. 389 8. 374 8. 377 8. 402 8. 377 8. 3567 8. 3354 8. 3353 8. 3344 8. 3353 8. 323	ALPHA -3.180 -2.030010 1.000 2.000 3.010 4.000 5.040 6.040 7.040 8.070 9.080 10.080 11.110 12.100 13.130 14.110 15.140 16.160 17.160 18.180 20.190 21.200 23.280 24.300 GRADIENT	CSL0005000050000600007000080000800008000080000900009000090000900011000140001400014000140001400018000080000900010000090	CLN0001000010000100001000010000100001000020	CPCAV - 21800 - 22400 - 22300 - 22900 - 21900 - 21700 - 22200 - 22700 - 23100 - 23100 - 23100 - 25300 - 25300 - 25300 - 25300 - 26300 - 27300 - 28800 - 30400 - 31700 - 300057	CPBASE250002520025200255000255000255000254000254000254000255000	Q(PSF) 554.10000 556.30000 555.50000 558.00000 556.90000 557.80000 559.00000 559.50000 559.50000 559.50000 559.50000 559.50000 559.50000 559.50000 560.30000 565.30000 565.30000 565.30000 565.30000 565.30000 565.30000 565.30000 565.30000 565.30000	ELVN-L06000060001000010000110000120001200009000070000700001000	ELVN-R05000 .03000 .05000 .05000 .070000300001000 .02000 .02000 .010000100008000010000800005000	XCP/L .69900 .71700 .84300 -10.39000 .44800 .55500 .60500 .61200 .63200 .63200 .63400 .63500 .63700 .63700 .64100 .64100 .65100 .65100 .65100 .65100	AILRON010000400005000070000800004000	BETA .00000

### 15. VON 45. ) (£00UA) ARC 135-1-12 LAGS BASELINE

PARAMETRIC DATA

### REFERENCE DATA

SREF = LREF = BREF = SCALE =	2690.0000 9 474.8000 936.6800 .0150	IN. YMRP	= .0	000 IN. XO 000 IN. YO 000 IN. ZO				BETA = ELEVON = MACH = RUDDER =	4.000 .000 .290 .000	SPOBRK = AILRON = BOFLAP = GRITNO =	25.000 .000 .000 .000
		RUN NO.	11/ 0	RN/L =		ADIENT INTE			XCP/L	AILRON	BETA
RN/FT	ALPHA	CSL	CLN	CPCAV	CPBASE 21400	Q(PSF) 414,60000	ELVN-L .00000	ELVN-R 09000	.69700	.04000	4.03000
5.989	-3.030	00250 00290	.00530 .00520	26700 26500	21300	413.90000	01000	04000	.71300	.01000	4.04000
5.976 5.962	-2.010 050	00410	.00530	27600 .	21500	413.10000	.00000	08000	.84600	.04000	4.04000
5.964	.980	~.00410	.00550	27100	21600	413.90000	02000	-,01000	-2.15700	.00000	4.04000
5.968	1.990	00500	.00540	27400	21500	415.00000	01000	.00000	.47700	.00000	4.04000
5.954	2.960	00550	.00550	27700	~.22600	413.30000	02000	سر20010.	.56100	~.D1000	4.04000
5.967	3.980	00590	.00550	27200	21800	415.80000	02000	.03000~	.59300	03000	4.03000
5.952	4.970	00670	.00590	27700	21600	415.70000	02000	07000	.61200	.02000	4.03000
5.971	5.970	00720	.00600	27700	21900	417.40000	03000	.06000	.62100	04000	4.02000
5.950	6.980	00750	.00650	27900	22300	415.30000	06000	.00000	.62700	03000	4.01000 4.00000
5.949	7.970	00790	.00690	28100	21700	415.50000	02000	.09000	.63100	05000 00050.	3.99000
5.953	8.960	00890	.00720	28200	22600	416.50000	02000	05000	.63500 .63700	02000	3.98000
5.950	9.990	01020	.00760	28100	22100	416.40000	01000	.03000	.63800	02000	3.97000
5.948	10.990	01110	.00790	28100	22400	416.30000	02000	.03000 .02000	.63900	02000	3.96000
5.933	11.990	01190	.00910	28630	22300	414.70000	02000	.06000	.64000	05000	3.94000
5.947	15.980	01180	.00810	28600	,22600	417.20000	~.05000 ~.06900	.00000	.64000	02000	3 93000
5.935	,14.010	01150	.00340	28900	~.22700	415.70000	09000	09000	.64200	02000	3.91000
5.938	15.000		.00840	~.29000	23500 24300	417.40000 415.00000	10000	.07000	.64400	09000	3.89000
5.920	16.030		.00820 .00790	30200 30100	24700	415.50000	10000	.08000	.64500	09000	3.87000
5.920 5.940	17.030 18.030		.00790	30800	26100	419.00000	14000	05000	.64630	04000	3.85055
5.931	19.040		.00510	31300	26900	418.30000	11000	06000	.64900	02000	3.83000
5.928			.00550	32500	27600	418.30000	06900	.04000	65000	05000	3.81000
5.933	21.050		.00333	33600	27500	419.20000	~.07000	05000	.65100	~.01000	3.79900
5.920	22.110		.00800	35500	28700	417,70000	10000	.07000	.65200	08000	3.76000
5.923	23.050		01000.	36900	30000	418.50000	13000	.01000	.65400	07000	3.74000
5.903	24.080		.00840	38700	31100	415.90000	13000	11000	.65400	01000	3.71000
3.202	GRADIENT	00051	.00007	00123	00075	.17709	00244	.00818	01002	00502	00041
							•				

•

( 24 NOV 75 ) (E00U/A) ARC 135-1-12 LASS BASELINE

### PARAMETRIC DATA REFERENCE DATA 4.000 SPDBRK = 25,000 BETA 1076.7000 IN. XO 2690.0000 SQ.FT. XMRP = 000. AILRON = BOFLAP = GRITNO = .000 ELEVON = Ħ .0000 IN. YO YMRP LREF = 474.8000 ÎN. .000 MACH = BREF = SCALE = ZMRP 375.0000 IN. ZO 936.6830 IN. .000 .000 RUDDER = .0150 GRADIENT INTERVAL = -5.00/ 5.00 10/ 0 6.89 RUN NO. RN/L = .02000 -.03000 XCP/L AILRON BETA ELVN-R CSL **CPCAV CPBASE** Q(PSF) RN/FT ALPHA CLN .07000 -.01000 .02000 .01000 -.03000 .69500 4.04000 -.02000 .00530 .00540 .00550 .00560 -.24900 -.22300 467.60000 -3.010 -.00270 6.928 -.24900 -.25000 -.26100 -.25900 -.26500 -.25800 -.27900 4.04000 .71000 -.01000 -.22300 468.10000 -.00300 6.917 -2.030 4.04000 -.22900 -.22900 -.22700 -.23100 .85100 -.03000 -.05000 465.50000 -.010 .-.00410 6.891 -.97100 -.03000 4.04000 467.50000 -.05000 6.898 .950 -.00450 .50200 .57100 .59900 -.02000 4.04000 -.07000 466.10000 6.881 -.00500 1.990 -.04000 4.04000 -.06000 466.00000 6.879 -.00540 .00570 2.960 6.879 6.885 6.885 6.878 6.878 6.878 6.878 4.04000 -.04000 -.01000 3.990 470.40000 -.08000 -.22200 .00580 -.00590 -.05000 4.03000 .61500 468.20000 .01000 -.24000 -.10000 -.00640 .00590 4.02000 5.980 7.010 8.030 9.020 -.04000 469.50000 470.30000 -.01000 -.09000 -.00690 .00630 -.26200 -.22800 -.02000 -.07000 -.07000 4.02000 ~.09000 -.05000 .63100 -.00790 .00670 -.26700 -.23100 -.05000 .02000 .05000 .01000 .02000 -.08000 -.04000 -.04000 -.04000 .00670 .00720 .00760 .00780 .00820 .00840 .00840 4.01000 .63400 -.00810 -.22800 470.20000 -.11000 -.26200 4.00000 3.99000 3.97000 .63600 .63700 -.09000 ~.00390 -.00980 -.01080 -.23100 470.50000 -.26500 -.01000 -.07000 -.26900 -.23300 468.80000 .63800 -,04000 -.07000 11.030 12.050 13.050 468.30000 -.27100 -.24000 .63900 3.96000 -.05000 -.26600 -.26800 -.27500 -.09000 6.859 6.887 -.22300 470.70000 -.01120 3.95000 .00000 -.22800 475.30000 -.08000 -.01090 3,93000 .64100 472.50000 468.60000 .00000 14.030 15.060 -.05000 6.860 -.01110 -.24200 .64200 .64300 .64500 .64500 .64700 .65100 .65200 6.830 6.833 6.836 6.818 6.833 6.833 .00000 3.91000

-.25700

-.25200 -.25200

-.27000

-.27100

-.28600

-.29100

-.30800

-.30600

-.33000

-.00122

469.80000 470.70000

468.90000

469.90000

471.90000

472.60000

470.80000

470.40000 469.20000 .12739

-.28300

-.28400

- 28400

-.29300

-.30200

-.30700

-.32200

-.34000

-.34800

-.37000

-.00216

.00830 .00790

.00770

.00640

.00520

.00743

.00740

.00570 .00570 .00490 .00007

-.01110

-.01050

-.01080

-.01090

-.01080

-.01240

-.01050 -.00780 -.00650

-.00370 -.00047

16.080

17.070

18.070

18.070 19.110 20.110 21.130 22.210 23.150 24.220 GRADIENT

6.820

6.814

5.803

-.01000

-.02000

-.08000

-.09000

-.09000

-.08000

-.12000 -.10000

-.11000

-.14000

-.01197

.05000

-.21000

.00000

.00000 .03000 .00000 -.12000

3.90000

3.86000

3.84000

3.81000 3.79000 3.76000 3.74000 3.71000 -.00068

.01000

.00000

-.07000

-.06000

-.06000

-.06000

~.01000

-.00396

.65400

.65500 -.01291

PARAMETRIC DATA

ARC 135-1-12 LA66 BASELINE . (ANJ003) ( 24 NOV 75 )

### REFERENCE DATA

	INDI CINC	TICL DITTI									
SREF = LREF = BREF = SCALE =	2690.0000 S 474.8000 I 936.6800 I .0150	N. YMRP	= .00	000 IN. XO 000 IN. YO 000 IN. ZO		,		BETA = ELEVON = MACH = RUDDER =	4.000 000 005 000	SPOBRK = AILRON = BDFLAP = GRITNO =	25.000 .000 .000 .000
RN/FT	ALPHA	RUN NO. CSL	9/ 0 CLN	RN/L = CPCAV	8.40 GR CPBASE	ADIENT INTER	RVAL = -5.0 ELVN-L	0/ 5.00 ELVN-R	XCP/L	AILRON	BETA 4.04000
8.448 8.439 8.399 8.371 8.386 8.370	-2.980 -2.040 010 980 1.990 2.990	00360 00410 00510 00560 00600 00650	.00550 .00530 .00550 .00559 .00570 .00570	23100 22900 23300 23400 23700 23700 23400	23100 24000 23700 24100 23800 24000 24100	548.50000 548.70000 548.70000 542.50000 545.40000 5443000 545.20000	04000 02000 02000 03000 04000 04000	04000 04000 03000 07000 .00000 .00000	.69000 .70300 .83800 05400 .53700 .58900	.00000 .01000 .01000 .02000 02000 01000	4.05000 4.05000 4.05000 4.05000 4.04000 4.04000
8.372 8.357 8.354 8.361 8.246 8.335 8.337	4.030 5.020 6.050 7.060 8.070 9.070 10.070	00710 00750 00800 00820 00880 00970 01070	.00520 .00660 .00690 .00740 .00770 .00810	24200 24300 24300 24500 24400 25000 24800	24800 24400 24300 23900 24000 25100 24400	544 00000 545.80000 547.70000 546.90000 546.90000 546.90000 547.50000	08000 07000 09000 10000 14000 04000	03000 01000 .04000 02000 07000 14000	.62200 .62900 .63300 .63600 .63800 .63900 .64100	02000 03000 07000 04000 04000 05000 03000	4.04000 4.03000 4.02000 4.01000 4.00000 3.99000 3.98000
8.333 8.310 8.323 8.327 8.312 8.303 8.287 8.280	12.110 13.140 14.140 15.160 16.170 17.170 18.190 19.270	01220 01130 01140 01130 01150 01120	.00870 .00860 .00870 .00870 .00870 .00870 .00750	24700 25500 25500 25800 26400 26900 27700 28700	23900 25000 24900 25400 26400 27700 28400 28900	548.00000 548.60000 551.00000 553.60000 552.90000 552.50000 550.90000	13000 16000 12030 06000 11000 14000 15000	03000 07000 08000 .01000 04000 05000 11000 04000	.64100 .64200 .64300 .64400 .64600 .64800 .65000	05000 05000 03000 04000 05000 02600 04000 02000	3.95000 3.9.000 3.9.000 3.90000 3.88000 3.86000 3.87000
8.275 8.279 9.260 8.288 8.266	21.270 22.290 23.270	01220 00800 00550	.00500 .03623 .03570 .03540 .03610	29600 30900 32800 35900 35100 00091	29200 30200 31400 32300 33200 00092	553.50000 555.00000 553.50009 558.70000 556 50000 62344	13000 13000 13000 10000 11000 00168	08000 0000 12000 01000 01000	.65300 .65400 .65500 .65700,	07000 - 01000 05000 05000 00337	3.79000 3.77000 3.75000 3.72000 00048

DATE 19 AUG 76 ( 24 NOV 75 )

ARC 135-1-12 LAGS BASELINE

REFERENC	E DATA							PARAMETRIC	DATA	
SREF = 2690.0000 SQ. LREF = 474.8000 IN. BREF = 936.8800 IN. SCALE = .0150	YMRP	= .0	000 IN. XO 000 IN. YO 000 IN. ZO				ALPHA = ELEVON = MACH = RUDDER =	6.000 .000 .290 .000	SPDBRK = AILRON = BDFLAP = GRITNO =	25.000 .000 .000 .000
	RUN NO.	15/ 0	RN/L =	5.93 GF	ADIENT INTER	RVAL = -5.00	5.00			
RN/FT BETA 5.871 -7.640 5.887 -6.680 5.894 -5.680 5.894 -4.690 5.897 -3.720 5.909 -2.750 5.908 -1.760 5.905 -800 5.911 .170 5.903 1.170 5.919 2.150 5.909 3.130 5.908 4.100 5.919 5.060 5.923 6.030 5.924 7.030 5.936 GRADIENT	CSL .01230 .01040 .00870 .00710 .00560 .00410 .00290 .00170 .00030 00100 00240 00380 00680 00680 00680 00850 01030 01210 00138	CLN01480012400160000610006400045000150 .00000 .00150 .00510 .00700 .00150 .0150 .0150	CPCAV254002400024000230002180021800216002130021500215002150021500215002150021500	CPBASE236002360023600234002230022900231002480024800248002530025300251002510025100	Q(PSF) 381.80000 383.20000 383.70000 383.40000 384.40000 384.00000 383.00000 381.80000 381.50000 381.50000 381.50000 381.50000 381.50000 381.50000	ELVN-L .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000	ELVN-R .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000	XCP/L .63300 .63100 .62900 .62600 .61900 .61500 .61500 .61700 .61900 .62100 .62400 .62900 .63300 -00053	AILRON .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000	ALPHA 6.16000 6.16000 6.16000 6.16000 6.16000 6.16000 6.16000 6.16000 6.16000 6.16000 6.16000 6.16000 6.16000 6.16000
	RUN NO.	17/ 0	RN/L =	6.95 GF	ADIENT INTER	RVAL = -5.00	5.00			
RN/FT BETA 6.884 -7.660 6.907 -6.710 6.899 -5.740 6.895 -4.710 6.907 -3.730 6.901 -2.780 6.909 -1.800 6.912810 6.904 .180 6.908 1.120 6.919 2.140 6.911 3.100 6.931 4.100 6.931 4.100 6.931 4.100 6.938 6.060 6.948 7.040 6.948 7.040 6.963 8.050 GRADIENT	CSL .01230 .01020 .00860 .00700 .00550 .00420 .00300 .00170 .00040 00240 00240 00530 00530 00830 01190 01190	CLN01460012100101000800004600048000180001100051000510005100135001350016100166	CPCAV236002290022700227002070020700193001930020100021100021100021500215002150022500	CP8ASE2450023800233002330023300228002350024500241002540025800258002630026300263002630026300	0(PSF) 458.70000 461.20000 459.90000 458.80000 459.20000 459.20000 457.20000 457.90000 457.90000 457.80000 457.80000 457.80000 457.90000 457.90000 457.90000	ELVN-L .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000	ELVN-R .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000	XCP/L .63500 .63300 .63700 .62700 .62300 .61700 .61600 .61800 .62000 .62200 .62800 .63400 00049	A1LRON .00000	ALPHA 6.19000 6.19000 6.19000 6.19000 6.19000 6.19000 6.19000 6.19000 6.19000 6.19000 6.19000 6.19000 6.19000 6.19000 6.19000

(400UA)

( 29 NOV 75 1) 1

### ARC 135-1-12 LAGG BASELINE

	REFERENCE DATA							. F	PARAMETRIC	ATA	
SREF = 6 LREF = BREF = SCALE =	2690.0000 SQ. 474.8000 IN 936.6800 IN	, YMRP	= .	7000 IN. XO 3000 IN. YO 3000 IN. ZO		,		ALPHA = ELEVON = MACH = RUDDER =	6.000 000 .290 .000	SPDBRK = AILRON = BDFLAP = GRITNO =	25.000 .000 .000 .000
		RUN NO.	16/ 0	` RN/L =	8.52 GR	ADIENT INTE	RVAL = -5.0	0/ 5.00			
RN 4457 77 77 77 77 77 77 77 77 77 77 77 77 7	BETA -7.680 -6.700 -5.710 -4.730 -3.740 -2.780 -1.820800 .170 1.160 2.140 3.130 4.110 5.090 6.070 7.050 8.030 GRADIENT	CSL .01190 .01020 .00850 .00680 .00530 .00400 .00280 .00150 .00150 00120 00260 00520 00580 00530 01230 01230	CLN 01430 01200 01020 00820 00470 00320 00170 00320 00150 00480 00860 00860 00860 01080 01570 00154	CPCAV243002430023800238002290021900219002190022900229002290024300243002450024500	CPBASE24000239002400023600235002350023500255000250002570026200267000277000277000277000	Q(PSF) 560.50000 560.00000 559.30000 559.10000 558.90000 559.30000 559.30000 557.50000 557.30000 557.70000 557.70000 556.10000 556.10000 558.10000	ELVN-L .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000	ELVN-R .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000	XCP/L .63600 .63400 .62700 .62700 .62300 .61600 .61600 .61600 .62000 .62000 .62900 .63400 .63400	AILRON .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000	ALFHA 6.24000 6.23000 6.24000 6.23000 6.24000 6.23000 6.23000 6.23000 6.23000 6.23000 6.23000 6.23000 6.23000 6.23000 6.23000

**DATE 19 AUG 76** 

ARC 135-1-12 LA66 BASELINE

.00053

GRADIENT

-.00237

(ANJ005)

( 24 NOV 75 )

### PARAMETRIC DATA REFERENCE DATA SPDBRK = AILRON = 25.000 1076.7000 IN. XO .0000 IN. YO 375.0000 IN. ZO ALPHA = 12.000 2690.0000 SQ.FT. XMRP SREF ELEVON = MACH = .000 .000 = 474.8000 IN. 936.6800 IN. .0150 YMRP = LREF BDFLAP = GRITNO = .290 .000 BREF ZMRP = .000 RUDDER = .000 SCALE = GRADIENT INTERVAL = -5.00/ 5.00 5.96 RUN NO. 20/ 0 RN/L = CPCAV -.27500 -.25900 -.26100 -.24300 -.24700 XCP/L AILRON ALPHA Q(PSF) 407.00000 406.70000 ELVN-L .00000 ELVN-R **CPBASE** ELVN-R .00000 .00000 .00000 .00000 .00000 .00000 RN/FT BETA CSL ' CLN CPBASE -.25000 -.235000 -.235000 -.23400 -.23400 -.24500 -.24500 .00000 12.35000 12.35000 -.01860 -.01610 -.01280 .64500 5.888 -7.650 .01890 .64300 .00000 5.890 -6.670 .01660 12.35000 12.35000 - .00000 .64100 405.50000 .00000 5.882 -5.670 .01390 .64000 .00000 408,40000 .00000 12.35000 12.35000 12.35000 12.35000 12.35000 12.35000 12.35000 12.35000 12.35000 12.34000 12.34000 12.34000 5.903 5.896 -4.700 .01160 -.01010 408.40000 407.10000 407.30000 406.80000 408.10000 411.20000 407.80000 .63800 .63600 .63400 .00000 -.00780 -.00560 -.00390 .00000 -3.720 .00910 .00000 .00000 -.23700 5.899 -2.750 .00860 .00000 5.900 5.910 5.950 .00000 -1.770 .00440 -.23600 -.00390 -.00190 .00190 .00380 .00580 .01110 .01360 00000 ...0000 .63300 -.22900 -.820 .00200 .00000 -.00250 -.00250 -.00490 -.00730 .63300 .00000 -.23800 .150 .00000 .63400 .00000 -.24600 .00000 ~.23400 5.929 1.130 406.80000 408.00000 .63400 .00000 -.23700 -.25000 .00000 2.120 5.925 .63600 .00000 .00000 -.23100 -.24400 5.938 3.110 .00000 .63700 .00000 -.24700 408.50000 .00000 -.23800 5.945 4.090 -.00960 .63900 .00000 -.25700 406.10000 .00000 5.934 5.070 -.01200 -.24100 -.25900 -.25630 -.26300 .64100 .00000 406.60000 .00000 -.25000 5.945 6.050 -.01430 .64300 12 34000 .00000 408.90000 00000 7.040 - 01660 -.24900 5.972 .64400 -.00031 12.34000 .00000 407.30000 .00000 8.010 GRAD!ENT .01590 .00000 -.01930 -.25500 5.969 .00000 -.00100 .06612 .00000 .00000 .00095 -.00218 -.00240 5 00 GRADIENT INTERVAL = -5 00/ RN/L = 7.00 RUN NO. 19/ 0 ELVN-R .00000 .00000 .00000 .00000 .00000 .00000 .00000 AILRON .00000 **ALPHA** Q(PSF) 476.90000 XCP/L BETA -7.660 -6.680 -5.730 -4.710 ELVN-L CPCAV CPBASE CLN RN/FT CSL -.01870 -.01543 -.01230 -.01200 -.00770 -.00540 -.00170 12.40000 .00000 .64600 -.26500 -.24900 6.950 .01900 .00000 12.40000 .64400 -.25300 -.23500 478.00000 .00000 6.962 .01640 .01390 12.40000 -.24000 -.23700 -.23400 -.24000 -.25400 -.24200 -.24200 .64200 .00000 -.24800 477.50000 . .00000 6.959 .64000 .00000 12.40000 -.24100 -.23700 -.23300 474.50000 .00000 6.952 .01150 474.55000 474.00000 473.60000 474.20000 474.00000 475.30000 471.20000 .63800 .63600 .63500 12.40000 .00000 .00000 6.951 -3.750 .00920 6.951 6.960 6.961 6.953 6.953 6.953 .00000 12.40000 .00000 -2.780 .00680 .00000 12 40000 .00000 -1 790 -.23100 .00450 12.40000 .00000 .63400 -.22500 -.800 -.00170 .00220 .00000 12.41000 .00000 .63400 .180 .00000 -.00020 12.40000 .63400 .00000 1.150 -.00240 .00210 -.22800 12.40000 12.40000 12.40000 2.120 3.120 4.100 5.070 6.060 .00000 .00000 .63400 .00000 -.00480 .00400 -.22900 -.24800 471.10000 .00000 .00000 .00000 .00000 .00000 .00400 .00880 .01130 .01390 .01700 .63500 .00000 -.00720 -.23000 -.24900 470.80000 .00000 .63800 .00000 -.24000 -.25900 469.00000 .00000 12.40000 12.39000 12.39000 12.39000 .63900 .00000 -.25500 470.70000 .00000 -.24000 6.965 -.01180 470 50000 471.80000 .64100 00000 -.25100 .00000 ~ 26200 6.972 -.01410 .64400 .00000 7.040 8.020 .00000 -.01850 -.26800 6.995 .64500 -.27200 -.00181 .00000 -.25100 471.10000 .00000 7.002 -.01900 .00005 ~.00028 .00000 -.57126 .00000

	to a stiff	00UNA)	5) 6·24 NO	ov 75 ) .						
REFERENCE	DATA	F.			i		į	PARAMETRIC	DATA	
SREF = 2690.0000 SQ.FT LREF = 474.8000 IN. BREF = 936.6800 IN. SCALE = .0150	48MY	= .00	00 IN. XO 00 IN. YO 00 IN. ZO				ALPHA = ELEVON = MACH = RUDDER =	12.000 .000 .290 .000	SPDBRK = AILRON = BDFLAP = GRITNO =	25.000 .000 .000 .000
	RUN NO.	18/ 0	RN/L =	8.52 GR	ADIENT INTER	VAL = -5.00	0/ <sub>'</sub> 5.00			
8.386 -7.700 8.377 -6.700 8.395 -5.720 8.387 -4.720 8.387 -2.760 8.399 -2.760 8.424 -1.800 8.416820 8.414 .170 8.410 1.170 - 8.424 2.130 - 8.424 2.130 - 8.427 5.080 - 8.473 4.100 - 8.477 5.080 - 8.484 6.070 - 8.484 6.070 - 8.520 7.060 - 8.530 8.030 -	.01410 .01180 .00940 .00700 .00470 .00250	CLN01820015100122000980007700056000170002000410008700150015001410019500195000206	CPCAV251002520024300231002320023200235002350023500235002370023700234002340023400	CPBASE2500024500237002340025500025600025000260000260000260000263000263000263000267000271000273000273000273000273000273000273000	Q(PSF) 566.20000 564.50000 556.40000 556.80000 565.50000 565.20000 565.20000 565.20000 565.20000 565.20000 565.60000 565.70000 565.70000 565.70000 565.70000	ELVN-L .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000	ELVN-R .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000	XCP/L .64700 .64500 .64000 .63700 .63700 .63400 .63500 .63500 .63600 .64000 .64000	AILRON .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000	ALPHA 12.48000 12.48000 12.48000 12.48000 12.48000 12.48000 12.48000 12.48000 12.48000 12.48000 12.48000 12.48000 12.48000 12.48000 12.48000 12.47000 12.47000 12.47000 12.47000 12.47000

**DATE 19 AUG 76** 

### ( 24 NOV 75 ) (ANJ006) ARC 135-1-12 LAGS BASELINE PARAMETRIC DATA REFERENCE DATA 25.000 18.000 SPDBRK = ALPHA = 1076.7000 IN. XO .0000 IN. YO SREF = LREF = BREF = SCALE = 2690.0000 SQ.FT. 474.8000 IN. XMRP = ELEVON = MACH = RUDDER = .000 AILRON = .000 YMRP = .000 .290 EDFLAP = ZMRP 375.0000 IN. ZO 936.6800 IN. GRITNO = .000 .000 .0150 GRADIENT INTERVAL = -5.00/ 5.00 5.99 RUN NO. 25/ 0 RN/L = ALPHA AILRON CLN -.01830 -.01510 -.01240 -.01040 -.00810 Q(PSF) 410.20000 ELVN-R XCP/L ELVN-L CPBASE **CPCAV** RN/FT BETA CSL. .00000 18.54000 .00000 .65100 .00000 -.31000 -7.640 ~.29400 5.918 .02030 .00000 18.55000 .65000 .00000 -.29100 -.27200 .00000 411.90000 -.27800 5.934 -6.660 .01740 .00000 18.54000 .64800 .00000 .00000 -.26600 410.50000 5.927 -5.680 .01440 .00000 18.55000 -.26000 -.26600 -.25400 -.25100 -.26300 -.26900 -.26900 .00000 .64700 412.80000 .00000 5.944 -4.700 .01200 18.55000 .00000 .00000 .00000 .64600 5.944 5.947 5.953 5.961 5.957 412.10000 -3.730 -2.750 .00940 18.55000 .00000 .64600 .00000 .00000 -.00620 -.00450 412.19000 .00720 .00000 .00000 .00000 .00000 18.55000 .64500 .00000 .00000 -.27400 412.50000 -1.750 .00490 .00000 18.55000 .64500 -.27300 -.28400 413.30000 .00000 -.800 -.00270 .00260 18.55000 .64500 .00000 .170 412.20000 .00000 .00050 -.00060 -.25400 .64500 .64600 .64700 18.55000 .00000 -.00010 .00160 .00380 .00690 .00920 .00000 412.60000 -.28600 -.00210 -.24900 5.963 1.130 18.55000 413.20000 413.20000 407.20000 .00000 .00000 -.28300 5.973 5.978 5.941 -.00440 -.00700 -.25100 2.130 .00000 18.54000 .00000 -.25500 -.29200 3.090 4.090 18.54000 .00000 .00000 -.26500 -.28800 -.00980 .65000 18.53000 .00000 .00000 .00000 -.26000 -.29400 409.40000 5.070 5.965 -.01240 18.53000 .00000 .00000 .65100 -.26500 -.27600 .00000 408.50000 -.30300 5.968 6.030 -.01490 18.53000 .00000 .65300 .00000 .00000 .01520 407.90000 -.32300 5.973 7.030 -.01780 .00000 18 52000 .00000 .65500 .00000 8.000 GRADIENT -.33200 409 00000 -.27500 -.02950 5.993 -.00100 .00010 .00000 .00000 ~.00312 -.23726 .00000 -.00244 .00182 .00027 GRADIENT INTERVAL = -5.00/ 5.00 RUN NO. 23/ 0 RN/L = 5.92 ALPHA Q(PSF) 473.80000 AILRON XCP/L ELVN-L ELVN-R **CPBASE CPCAV** RN/FT BETA CSL CLN .65200 .65100 18.62000 .00000 .00000 .00000 -.31400 -.01780 -.28500 6.891 -7.640 .02020 18.62000 .00000 .00000 .00000 -.01490 -.27600 -.29600 472.40000 6.884 -6.670 .01760 .64800 .64800 .64700 18.62000 -.26300 -.25900 -.26000 -.26000 .00000 .00000 .00000 -.01230 -.01060 -.00910 -.27400 472.70000 6.889 -5.690 .01490 18.62000 .00000 .00000 .00000 -.26400 473.30000 00000. 00000. 00000. 00000. 00000. 6.896 -4.710 .01230 18.63000 .00000 -.27400 475.30000 .00000 6.915 -3.730 .00980 18.62000 .64600 .00000 -2.760 -1.780 -.790 -.27200 473.70000 .00000 -.005+0 .00740 18.63000 .00000 -.27500 .64600 .00000 472.80000 6.904 6.919 6.924 6.931 .00550 -.00530 -.25300 18.63000 .64600 .00000 20000 -.24700 -.24500 -.28300 474.40000 .00300 -.00340 .64500 .64600 .64500 .00000 474.20000 .00000 ~.28400 170 -.00160 .00060 18.62000 .00000 474.60000 .00000 -.27300 -.00180 .00060 -.24100 1.160 18.62000 .00000 .00000 -.00440 472.70000 .00270 ~.25600 -.30000 6.922 2.130 18.61000 .00000 .00000 .00000 -.25500 -.30200 466.90000 .00410 6.885 3.120 .00000 18.61000 -.25600 -.26600 -.26200 -.27600 -.27600 .00000 .64900 .00000 -.30100 466.30000 -.00910 .00670 6.896 4.090 18.60000 .00000 .65000 .00000 465.20000 .00000 -.30900 5.070 6 884 -.01230 .00950 18.61000 .00000 .65200 .00000 -.30500 468.80000 .00000 .01200 6.916 6.030 -.01530 18.60000 18.60000 -.00157 .00000 .65300 .00000 -.32000 466.80000 .00000 6.907 7.040 -.01770.01510 .65500 .00005 .00000 .00000 465.10000 .00000 -.33900 8.020 GRADIENT .01810 6.926 -.02040 .00000 -.75375 .00000 .00074 -.00411 -.00242 .00190

(ANJ006) (\*24 NOV 75, 1)

ARC 135-1-12 LASS BASELINE

ARC 135-1-12 LABB BASELINE													
REFERENCE DATA													
SREF = 2690.0000 SQ. LREF = 474.8000 IN. BREF = 936.6800 IN. SCALE = .0150	YMRP	= .00	000 IN. XO 000 IN. YO 000 IN. ZO				ALPHA = ELEVON = MACH = RUDDER =	18.000 .000 .290 .000	SPOBRK = AILRON = BOFLAP = GRITNO =	25.000 .000 .000 .000			
	RUN NO.	21/ 0 -	RN/L =	8.39 GR	ADIENT INTER	RVAL = -5.00	/ 5.00						
RN/FT BETA 8.354 -7.650 8.377 -6.690 8.383 -5.710 8.352 -4.720 8.360 -3.740 8.382 -2.770 8.373 -1.810 8.379820 8.392 .170 8.402 1.150 8.402 1.150 8.371 2.150 8.368 3.130 8.388 4.110 8.388 4.110 8.374 5.080 8.389 6.060 8.389 7.050 8.389 8.020 GRADIENT	CSL .02100 .01820 .01550 .01300 .01080 .00830 .00570 .00320 .00040 00220 00480 00740 00990 01280 01510 01800 02060	CLN017400141001150010200083000700003800016000260004700096001510015100197	CPCAV29000274002620026200262002640025300245002450024300257002570025700266002830027700	CPBASE - 32000 - 30300 - 27600 - 27200 - 27900 - 27900 - 28000 - 28000 - 30000 - 31100 - 29800 - 31300 - 313500 - 33500 - 37500 - 00379	Q(PSF) 570.90000 573.40000 573.50000 569.30000 569.70000 569.70000 571.20000 571.20000 571.20000 565.60000 565.60000 565.10000 565.10000 565.50000 562.30000 32673	ELVN-L00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000	ELVN-R .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000	XCP/L .65300 .64900 .64800 .64700 .64600 .64600 .64600 .64700 .64800 .65200 .65200 .65300 .00006	ÁILRON .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000	ALPHA 18.74000 18.75000			

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR

### (ANJ007) ( 24 NOV 75 ) . ARC 135-1-12 LAGG BASELINE PARAMETRIC DATA REFERENCE DATA ALPHA = ELEVON = MACH = RUDDER = XMRP = YMRP = ZMRP = 18.000 SPDBRK = 25,000 1076.7000 IN. X0 .0000 IN. X0 375:0000 IN. Z0 2690.0000 SQ.FT. AILRON = BDFLAP = .000 .000 LREF = BREF = SCALE = 474.8000 IN. .000 .220 936.6800 IN. .000 GRITNO = .000 .0150 RUN NO. 2.76 GRADIENT INTERVAL = -5.00/ 5.00 26/ Q RN/L = CSL .02050 .01780 .01510 .01200 .00920 .00610 .00360 .00110 CPCAV -.25200 -.23300 -.22600 -.22300 -.21400 -.21200 Q(PSF) 140.70000 140.80000 140.60000 140.90000 XCP/L .65100 ALPHA 18.22000 18.22000 18.22000 18.22000 18.22000 18.22000 18.21000 18.21000 18.21000 18.21000 18.21000 18.21000 18.21000 18.21000 18.21000 18.21000 18.21000 ALPHA AILRON CPBASE -.31100 ELVN-L ELVN-R RN/FT 2.732 2.733 2.736 2.737 2.740 2.745 2.748 2.752 2.748 2.752 2.756 2.756 2.760 2.760 CLN DETA BETA -7.600 -5.700 -5.700 -4.680 -3.730 -2.780 -1.800 -.780 1.130 00000. 00000. 00000. 00000. .00000 .00000 -.01790 .00000 .65000 -.01390 :-.01100 .00000 -.28900 .00000 .64900 -.27800 .64800 .00000 1-.00870 -.27900 -.00650 -.00530 -.00370 -.00170 .00030 .64700 .64700 .00000 141.30000 140.80000 .00000 -.28500 .00000 .00000 :-.29400 -.20900 -.19800 -.20000 -.19900 -.20200 -.19900 .64600 .00000 .00000 .00000 -.29800 140.90000 .00000 .64600 .00000 -.29300 141,20000 .00000 .64600 .64600 .64700 .64800 .64900 .-.29300 -.29300 .00000 140.90000 .00000 .00000 141.00000 .00000 -.00400 -.29200 -.29300 -.28700 .00000 .00000 2.100 3.070 4.040 140.90000 .00000 -.00590 .00250 140.80000 .00000 .00000 .00000 -.00820 .00350 .00000 .00000 -:00000 -.01020 .00590 -.19600 .00000 .00000 5.030 5.990 6.950 7.250 139.90000 139.20000 .00000 -.28900 -.01180 .00710 -.20000 .65200 .65300 .65500 -.01390 -.01600 -.01920 -.00254 .00000 .00000 .00870 -.21100 -.31700 .00000 139.80000 138.90000 -.06911 .00000 .01180 -.19800 -.31400 -.22333 .00000 .00000 -.33:00 .01330 .00000 .00000 -.00062 GRADIENT .00161 GRADIENT INTERVAL = -5.00/ 5.00 5.27 RN/L = RUN NO. 24/ 0 0(PSF) 279.40000 280.60000 279.90000 279.10000 279.90000 279.30000 XCP/L .65000 .64800 .64700 .64500 ALPHA AILRON CPCAV -.30500 ELVN-L ELVN-R CPBASE BETA -7.620 CSL CLN RN/FT -.31500 -.29500 -.27900 -.28900 -.27700 .00000 18.38000 .00000 .00000 5.295 5.306 5.296 5.296 5.300 5.295 5.307 5.308 5.308 5.295 5.296 5.296 5.296 5.296 5.296 5.296 5.296 5.296 .01970 -.01890 .00000 .00000 .00000 18.38000 .00000 .00000 -6.700 .01720 -.01580 -.29500 18.39000 .00000 .00000 18.39000 18.39000 18.39000 18.39000 18.39000 18.38000 18.38000 18.38000 18.38000 18.38000 -5.680 -4.700 -.01330 -.29000 .01480 -.28200 -.27700 .00000 .00000 .01160 .-.01060 .00930 .00700 .00500 .00260 .00050 .00000 .00000 -3.750-.00830 .00000 .64400 .00000 .00000 -2.750 -1.780 -.00670 -.27600 -.28500 -.00300 -.00300 -.00120 .64300 .00000 .00000 -.27000 -.29000 .64300 .00000 -.26100 -.28400 280.70000 .00000 .00000 -.800 .64300 .64300 .00000 -.27000 280.70000 .00000 -.28000 .00000 .160 .00009 .00000 -.29100 .00000 1.130 -.27400 -.28100 -.27700 -.27800 -.28900 -.29200 .64400 .00000 .00000 .00350 -.31500 279.00000 .00000 2.130 -.00440 .64500 .00000 279.50000 .00000 .00000 -.00690 -.29500 3.080 -.29000 279.50000 -.29900 279.20000 -.31400 279.40000 -.33000 277.70000 -.34600 277.20000 -.00228 -.03305 .64600 .00000 :00000 .00000 -.00970 .00770 4.070 .64800 .65000 .65200 .65300 .00000 .00000 .00000 5.040 ~.01240 .01010 .00000 18.3800C .00000 .00000 6.030 -.01540 .01250 18.37000 18.37000 .00000 -.30100 -.30900 .00000 .00000 5.990 -.01820 .01560 .00000 .00000 .00000 7.970 GRADIENT .01880 -.02080

-.00006

.00208

-.00240

.00000

.00000

.00000

(ANJ007) - (-24 NOV 75--) - ?

## ARC 135-1-12 LAGG BASELINE

	REFERENC	E DATA			4				PARAMETRIC	DATA	
SREF = LREF = BREF = SCALE =	2690.0000 SQ. 474.8000 IN. 936.6800 IN. .0150	rMRP	= .00	000 IN. XO 000 IN. YO 000 IN. ZO				ALPHA = ELEVON = MACH = RUDDER =	.000 .000 .220 .000	SPDBRK = A!LRON = BOFLAP = GRITNO =	25.000 .000 .000
		RUN NO.	22/ 0	RN/L =	6.43 GR	ADIENT INTERV	/AL ≈ -5.0	0/ 5.00		à	
T138558724880473312796.443348866.44333127966.443331279	BETA -7.660 -6.670 -5.720 -4.690 -3.730 -2.770 -1.770 -1.130 2.060 3.080 4.080 5.030 6.040 7.020 7.990 GRADIENT	CSL .02020 .01750 .01410 .01180 .00930 .00730 .00510 .00260 .00030 ~.00160 ~.00390 ~.00650 ~.00920 ~.01240 ~.01550 ~.01840 ~.02110 ~.0236	CLN018600151001240010500085000660004800031000090 .00120 .00310 .00540 .00840 .01040 .01310 .01610 .01650	CPCAV3030029100284002740026800268002580027800278002780027800278002780028200282003040030600	CPBASE3240030200281002740029000290002900030300310003120031200341003610000317	Q(PSF) 335.80000 336.60000 336.10000 336.20000 335.40000 335.80000 335.80000 335.40000 335.60000 336.10000 336.10000 336.10000 336.10000 336.10000 336.10000 336.10000	ELVN-L .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000	ELVN-R .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000	XCP/L .65200 .65000 .64900 .64700 .64500 .64400 .64400 .64400 .64400 .64400 .64500 .65000 .65000 .65000	AILRON .000000	ALPHA 18.45000

ARC 135-1-12 LASS BASELINE

-.00180

-.00270

-.00200

-.00203

19.230

20.260

21.280

53.350

24.290

GRADIENT

8.221

-.00060

-.00350

-.00190

-.00110

.00030

.00220

-.00036

-.26600

-.27400

-.29200

-.30800

-.33000

-.34100

-.00144

(800L/A)

PARAMETRIC DATA

.66400

.66400

.65400

.66500

.66700

.01377

( 24 NOV 75 )

### REFERENCE DATA BETA ≈ ELEVON ≈ MACH = 1076.7000 IN. XO .0000 IN. YO 375.0000 IN. ZO .000 SPDBRK = 25.000 2690.0000 SQ.FT. 474.8000 IN. **XMRP** ≖ SREF 5.000 AILRON = .000 LREF YMRP = = BDFLAP = .800 .290 BREF = SCALE = ZMRP 936.6800 IN. GRITNO = .000 RUDDER = .000 .0150 GRADIENT INTERVAL = -5.00/ 5.00 8.29 RUN NO. 2/ 0 RN/L = AILRON .00000 -.01003 BETA CPBASE -.24500 -.25100 Q(PSF) 568.30000 569.50000 XCP/L ELVN-L ELVN-R RN/FT ALPHA CSL CLN **CPCAV** 8.315 8.319 8.296 8.300 8.284 8.278 .00000 4.97000 .60400 -.00010 4.96000 -3,190 .00050 ~.23900 .00000 4.96000 4.99000 .55500 -2.010 -.00020 ~.24200 .00050 .00000 .00000 -.00010 -.00010 .00000 4.96000 4.96000 5.00000 .81200 -.02000 .00020 -.24800 566.90000 .000 -.24500 5.00000 4.98000 5.01000 5.02000 5.04000 5.05000 -.01000 .00000 .72000 -.24600 568.20000 1.010 .00020 -.24400 -.02000 .00000 .69500 -.24800 4.97000 -.24600 586,70000 2.010 .00020 .68300 -.03000 .00000 3.040 4.050 -.25400 566.50000 4.97000 -.25100 .00010 .00000 ~.03000 .67700 -.25200 567.80000 4.97000 .00010 -.24900 8.281 8.264 8.273 8.286 8.270 8.285 8.291 8.261 8.278 8.263 -.05000 .00000 -.25200 4.95000 .67300 566,00000 -.24900 5.020 .00000 567.30000 569.50000 568.00000 570.20000 571.10000 -.05000 .00000 4.95000 .67000 6.070 .00000 .00010 -.25300 -.24800 -.04000 -.04000 -.05000 -.07000 -.07000 -.07000 -.02000 -.12000 -.09000 -.12000 -.12000 -.12000 -.05000 -.10000 -.10000 -.05000 -.05000 -.05000 -.05000 .00000 5.03000 .66800 4.95000 7.070 .00010 .00000 -.24600 -.24400 00000. 00000. 00000. 00000. 00000. 00000. .00010 4.92000 5.01000 .66600 8.070 .00000 -.24500 -.24400 4.88000 5.00000 .66500 9.120 -.24500 -.24600 .00000 4.86000 4.85000 4.79000 4.89000 .00010 .00030 .00040 .0000 .0000 .00010 5.03000 .66300 -.24800 -.24500 10.120 .00000 5.03000 5.00000 4.90000 5.09000 5.06000 4.99000 .66100 572.70000 11.160 .00000 -.24700 -.24500 -.26300 -.26300 -.25200 -.26100 -.26100 -.27200 -.27800 -.27800 .66000 ia. 170 569.00000 -.25500 -.00040 571.90000 570.20000 567.90000 .66000 -.24600 13.150 -.00060 .65900 4.87000 -.25200 14.170 -.00040 .65900 4.87000 8.239 15.180 -.00030 -.25400 .65900 .00000 576.20000 574.30000 4.83000 8.292 8 276 -.25400 16.240 -.00030 .00000 .66000 4.80000 17.230 - 00030 - 26100 -.00030 574.50000 572.50000 574.20000 573.50000 572.40000 573.70000 .00000 4.93000 .66100 4.84000 -.00100 -.25800 8.257 18,200 -,00070 00000. 00000. 00000. 00000. 00000. 8.265 8.255 8.245 8.245 8.227 5.00000 4.80000 .66200

-.31200

-.36000

-.38300 -.00073

571.50000

571.0:000 -.24785

4.79000

4.83000

4.81000

4.86000

4.81000

.00169

5.07000

5.03000

4.95000 4.97000 4.94000 .00799

# ARC 135-1-12 LA66 BASELINE . (ANJ009) ( 24 NOV 75 ) ~

PARAMETRIC DATA

### REFERENCE DATA

				1000 til VA				BETA =	.000	SPDBRK =	25.000
SREF = LREF =	2690.0000 S			000 IN. XO	•			ELEVON =	-5.000	AILRON =	.000
BREF =	936.6800 1			000 IN. ZO				MACH =	.290	BOFLAP =	.000
SCALE =	.0150							RUDDER =	.000	GRITNO =	.000
							D.(A) - E (	00/ 5.00			
, ,		RUN NO.	3/ 0	RN/L =	8.11 GR	ADIENT INTE	RVAL = -5.0	00.00			
RN/FT	ALPHA	CSL	CLN	CPCAV	CPBASE	Q(PSF)	ELVN-L	ELVN-R	XCP/L	AILRON	BETA
8.117	-3.210	00050	00060	22400	22800	561.30000	-4.80000	-5.04000	.74300	.15000	.00000 .01000
8.118	-2.030	00060	~.00060	22800	22300	563.10000	-4.80000	-5.06000	.76300	.13000	.00000
8.104	~.020	00070	00060	22100	21800	561.80000	-4.79000	-5.05000	.83300	.13000 .11000	.00000
8.110	.990	00090	~.00060	22100	22300	563.00000	-4.79000	-5.01000	.92100 1.17800	.11000	.00000
8.083	1.990	00100	00050	22500	22400	559.80000	-4.79000	-5.00000 -5.03000	10.21000	.12000	.00000
8.095	3.010	00110	00050	22800	22500	561.60000	-4.79000 -4.78000	-5.03000 -5.03000	02100	.13000	.00000
8.085	3.990	00120	~.00050	22700	22800	561.00000	-4.81000	-5.00000	.35700	.09000	.00000
8.108	5.000	00110	00050	22200	22100	554.50000 561.50000	-4.81000	-5.02000	.46200	.11000	.00000
8.084	5.990	00110	00050	22900	22800	566.30000	-4.79000	-5.00000	.51400	.10000	.00000
8.114	7.030	00120	00030	22500	22400 22800	566.60000	-4.77000	-4.98000	.54300	.10000	.00000
8.114	8.020	00140	00030	22800 23400	22000	567.30000	-4.80000	-4.99000	.56500	.10000	.00000
8.114	9.050	00140	00020	23300	-,23400	566.50000	-4.79000	-4.97000	.57900	.09000	.00000
8.107	10.050	00130	00020 00020	23100	23400	565.60000	-4.76000	-4.98000	.58600	.11000	.00000
8.097 8.096	11.080 12.090	00100 00100	~.00020	24200	23500	566.00000	-4.81000	-4.96000	.59200	.08000	.00000
8.095	13.120	00100	00010	24100	23500	566.30000	-4.76000	-4.99000	.59700	.11000	.00000
8.065	14.100	00100	00010	- 24700	~.23700	562.80000	-4.79000	-5.07000	.60200	.14000	.00000
8.098	15.110	00130	.00000	- 24400	24100	568.00000	-4.83000	-5.02000	.60800	.10000	.00000
8.077		00110	00030	25800	24100	565.50000	-4.80000	-5.04000	.61300	12000	.00000 00000
8.031	17.130	00000	00053	26100	25200	553.90000	-4.78000	-5.08000	.61701	. 15000	.00000
8.068	. 18.170	00130	00080	26500	26100	564.80000	-4.81000	-5.02000	.62300	.11000	.00000
8.050	19.180	00110	00090	26800	26000	562.70000	-4.85000	-5.08000	.62700 .63100	.08000	.00000
8.050		00240	00090	27600	27200	563.80000	-4.84000	-5.00000	.63400	.06000	.00000
8.059		00370	00193	28400	28200	565.40000	-4.87000	-5.00000 -5.00000	.63500	.04000	.00000
8.052		00230	00200	28800	29700	565.00000	-4.91000 -4.79000	-5.00000	.63700	.10000	.00000
8.044		00150	00210	30200	31500	564.40000 564.30000	-4.82000	-4.98000	.63800	.08000	.00000
8.040		.00080	00130	31600	32400 .00009	.07254	.00050	.00519	.23521	00237	00056
	GRADIENT	00009	.00002	00000	.00008	.07531	.50050	.005.0			